10724962

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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	FEB 25	CA/CAPLUS - Russian Agency for Patents and Trademarks (ROSPATENT) added to list of core patent offices covered
NEWS	4	FEB 28	PATDPAFULL - New display fields provide for legal status data from INPADOC
NEWS	5	FEB 28	BABS - Current-awareness alerts (SDIs) available
NEWS	6	FEB 28	MEDLINE/LMEDLINE reloaded
NEWS	7	MAR 02	GBFULL: New full-text patent database on STN
NEWS	8	MAR 03	REGISTRY/ZREGISTRY - Sequence annotations enhanced
NEWS	9	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS	10	MAR 22	KOREAPAT now updated monthly; patent information enhanced
NEWS	11	MAR 22	Original IDE display format returns to REGISTRY/ZREGISTRY
NEWS	12	MAR 22	PATDPASPC - New patent database available
NEWS	13	MAR 22	REGISTRY/ZREGISTRY enhanced with experimental property tags
NEWS	14	APR 04	EPFULL enhanced with additional patent information and new fields
NEWS	15	APR 04	EMBASE - Database reloaded and enhanced
NEWS	16	APR 18	New CAS Information Use Policies available online
NEWS	17	APR 25	Patent searching, including current-awareness alerts (SDIs), based on application date in CA/CAplus and USPATFULL/USPAT2 may be affected by a change in filing date for U.S. applications.
NEWS	18	APR 28	Improved searching of U.S. Patent Classifications for U.S. patent records in CA/CAplus

NEWS EXPRESS JANUARY 10 CURRENT WINDOWS VERSION IS V7.01a, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

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* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 12:00:07 ON 11 MAY 2005

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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STRUCTURE FILE UPDATES: 10 MAY 2005 HIGHEST RN 850201-14-8
DICTIONARY FILE UPDATES: 10 MAY 2005 HIGHEST RN 850201-14-8

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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************
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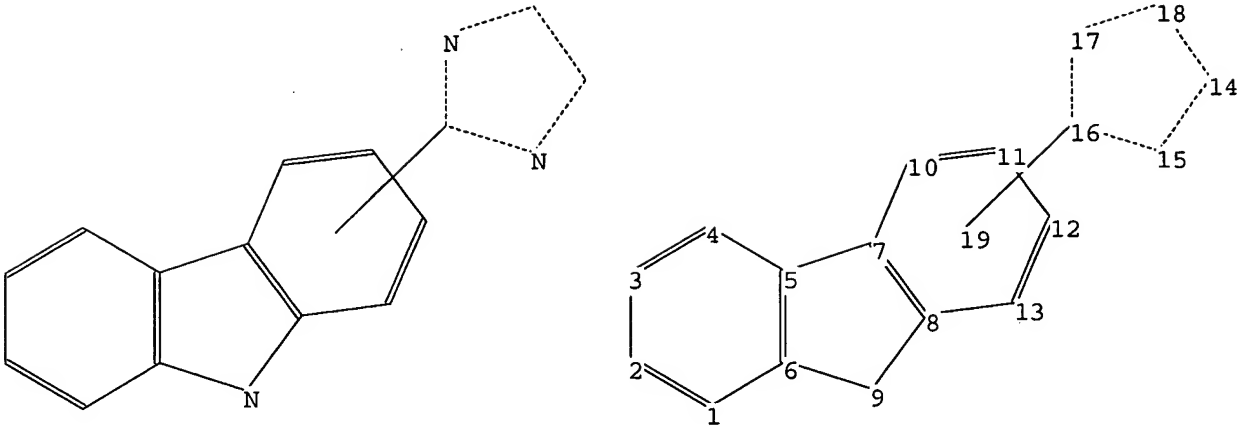
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading C:\Program Files\Stnexp\Queries\107249621.str

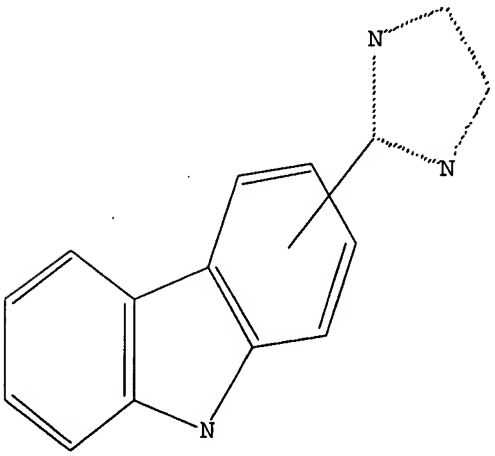


ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 10-11 11-12 12-13
14-15 14-18 15-16 16-17 17-18
exact/norm bonds :
5-7 6-9 8-9 14-15 14-18 15-16 16-17 17-18
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SEARCH INITIATED 12:00:41 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -  18032 TO ITERATE

  5.5% PROCESSED    1000 ITERATIONS                                0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       352601 TO   368679
PROJECTED ANSWERS:               0 TO        0

L2             0 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 12:00:47 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 361562 TO ITERATE

100.0% PROCESSED  361562 ITERATIONS                              74 ANSWERS
SEARCH TIME: 00.00.03

L3            74 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                               161.33     161.54

FILE 'CAPLUS' ENTERED AT 12:00:58 ON 11 MAY 2005
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FILE COVERS 1907 - 11 May 2005  VOL 142 ISS 20
FILE LAST UPDATED: 10 May 2005  (20050510/ED)

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  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l3
L4            38 L3
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10724962

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:324127 CAPLUS
DOCUMENT NUMBER: 142:373841
TITLE: Preparation of novel amidines for treating microbial infections like human African trypanosomiasis and falciparum malaria
INVENTOR(S): Tidwell, Richard R.; Boykin, David; Brun, Reto; Stephens, Chad E.; Kumar, Arvind
PATENT ASSIGNEE(S): University of North Carolina At Chapel Hill, USA; Georgia State University Research Foundation, Inc.
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

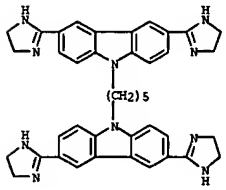
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005033065	A1	20050414	WO 2003-US27963	20030905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			WO 2003-US27963	20030905

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Novel amidine and diamidine compds. (1st of 7 claimed Markush formulas shown as I; variables defined below; e.g. 4,4'-bis(6-amidinobenzimidazol-2-yl)-1,2-diphenylethane tetrahydrochloride (II)) may be useful in the treatment of microbial infections, including mycobacterial, fungal and protozoal infections. Pharmaceutical formulations comprising these compds. can be used in methods of treating microbial infections. Neither pharmacol. activity nor therapeutic use is claimed, but the effectiveness of 11 examples of the claimed compds. against Trypanosoma rhodesiense and Plasmodium falciparum is tabulated. Although the methods of preparation are not claimed, 9 example prepns. of claimed compds. and intermediates are included. For example, II was prepared (64 %) from 4,4'-diformyl-1,2-diphenylethane, 4-amidino-1,2-phenylenediamine hydrochloride hemihydrate and 1,4-benzoquinone in EtOH. For I: X' and X'' = alkyl, alkylene, O, oxy, oxyalkyl, alkyloxy, alkyloxyalkyl, and -C(O)NH(CH2)q-; m, n, p, and q = 0-10; L = hydroxyalkyl, 1,2-oxazole, 1,3-oxazole, Ph, naphthyl, pyrimidine, alkyl-substituted pyrimidine and -CH(CO2R11)- (R11 = H or alkyl); R1-R10 = H, alkyl, hydroxy, oxyalkyl, alkyloxy, halo, aryl, and Y, wherein at least one of R1-R10 = Y, and Y = -C(:NR12)NR13R14,

L4 ANSWER 1 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
-CH:NNHC(:NR12)NR13R14, and -NHC(NR12)NR13R14 (R12 = H, hydroxy, cycloalkyl, aryl, aralkyl, alkoxyl, hydroxycycloalkyl, alkoxycycloalkyl, hydroxyalkyl, aminoalkyl, acyloxy, and alkylaminoalkyl; R13 and R14 = H, hydroxy, alkyl, alkoxyalkyl, cycloalkyl, aryl, aralkyl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl; or R12 and R13 together = C2-C10 alkyl, hydroxyalkyl, or alkylene; or R12 and R13 together = (R15)j-substituted o-phenylene (j = 1-3, and R15 is H or Y)).
IT 500714-08-9P, 1,5-Bis[3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9H-carbazol-9-yl]pentane
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of novel amidines for treating microbial infections like human African trypanosomiasis and falciparum malaria)
RN 500714-08-9 CAPLUS
CN 9H-Carbazole, 9,9'-(1,5-pentanediyl)bis[3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

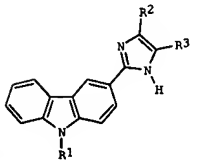


REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:513334 CAPLUS
DOCUMENT NUMBER: 141:71543
TITLE: Preparation of carbazole derivatives as NPY-5 antagonists
INVENTOR(S): Elliott, Richard L.
PATENT ASSIGNEE(S): Pfizer Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004122046	A1	20040624	US 2003-724962	20031201
WO 2004055002	A1	20040701	WO 2003-IB5859	20031209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2002-434373P P	20021218
OTHER SOURCE(S):	MARPAT 141:71543			

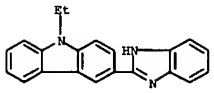
GI



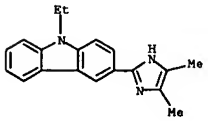
I

AB The title NPY-5 receptor antagonists I [R1 = H, alkyl; R2 = H, alkyl, aryl, 5-6 membered heteroaryl containing 1-3 heteroatoms selected from O, N, S; R3 = H, alkyl, haloalkyl; or R2 and R3 taken together form (un)substituted 6-membered heterocyclyl optionally containing 1-2 N ring atoms, 6-membered aryl], were prepared Thus, reacting 9-ethyl-9H-carbazole-3-carboxaldehyde with 1-phenyl-1,2-propanedione and ammonium acetate in glacial AcOH afforded I [R1 = Et; R2 = Ph; R3 = Me] which showed Ki of 15 nM against human NPY-5 receptor binding. Methods and pharmaceutical compns. useful for treating diseases, conditions and/or disorders modulated by the above NPY-5 receptor antagonists I are also provided.
IT 173463-46-2P 596821-99-7P 596822-00-3P

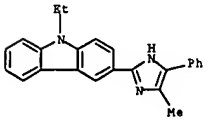
L4 ANSWER 2 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
596822-01-4P 596822-02-5P 596822-03-6P
596822-04-7P 711010-83-2P 711010-84-3P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of carbazole derivs. as NPY-5 antagonists)
RN 173463-46-2 CAPLUS
CN 9H-Carbazole, 3-(1H-benzimidazol-2-yl)-9-ethyl- (9CI) (CA INDEX NAME)



RN 596821-99-7 CAPLUS
CN 9H-Carbazole, 3-(4,5-dimethyl-1H-imidazol-2-yl)-9-ethyl- (9CI) (CA INDEX NAME)



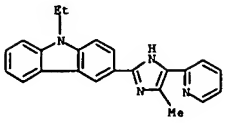
RN 596822-00-3 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(4-methyl-5-phenyl-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



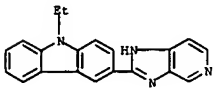
RN 596822-01-4 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-[4-methyl-5-(2-pyridinyl)-1H-imidazol-2-yl]- (9CI) (CA INDEX NAME)

APP II cont

L4 ANSWER 2 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 596822-02-5 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(1H-imidazo[4,5-c]pyridin-2-yl)- (9CI) (CA INDEX NAME)



RN 596822-03-6 CAPLUS
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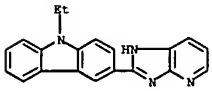

RN 596822-04-7 CAPLUS
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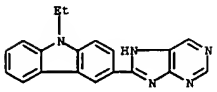
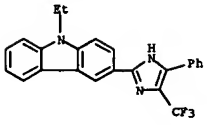
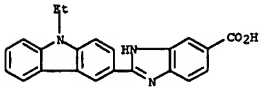


RN 711010-83-2 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-[4-phenyl-5-(trifluoromethyl)-1H-imidazol-2-yl]- (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 711010-84-3 CAPLUS
CN 1H-Benzimidazole-5-carboxylic acid, 2-(9-ethyl-9H-carbazol-3-yl)- (9CI) (CA INDEX NAME)



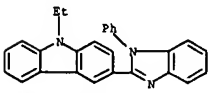
L4 ANSWER 3 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:431623 CAPLUS
DOCUMENT NUMBER: 141:140588
TITLE: Highly Phosphorescent Bis-Cyclometalated Iridium Complexes Containing Benzoimidazole-Based Ligands
AUTHOR(S): Huang, Wei-Sheng; Lin, Jiann T.; Chien, Chin-Hsing; Tao, Yu-Tai; Sun, Shih-Sheng; Wen, Yuh-Sheng
CORPORATE SOURCE: Department of Chemistry, National Central University, Chungli, Taiwan, 320, Peop. Rep. China
SOURCE: Chemistry of Materials (2004), 16(12), 2480-2488 CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:140588

AB New benzoimidazoles (bi) have been synthesized. These compds. readily undergo cyclometalation with iridium trichloride, and bis-cyclometalated iridium complexes, (bi)2Ir(acac) (bi = cyclometalated benzoimidazole; acac = acetylacetonate), can be isolated. One of the complexes, (fbi)2Ir(acac) (fbi = 2-(9,9-diethyl-9H-fluoren-2-yl-1H-benzoimidazole)), was also characterized by single-crystal x-ray structural determination Some of the complexes, (bi)2Ir(acac), are highly phosphorescent at ambient condition. Light-emitting devices using these complexes as dopants were fabricated, and the emission colors range from green to red. Some green- and yellow-emitting devices exhibit very high efficiencies.

IT **725251-18-3P**
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation of highly phosphorescent bis-cyclometalated iridium complexes containing benzoimidazole-based ligands)

RN 725251-18-3 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(1-phenyl-1H-benzimidazol-2-yl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

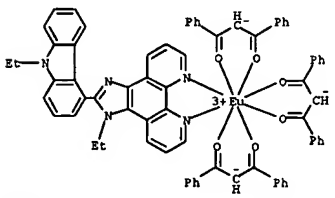
L4 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:257767 CAPLUS
DOCUMENT NUMBER: 141:44623
TITLE: Voltage-independent pure red devices based on a carbazole-functionalized europium complex
AUTHOR(S): Xin, Hao; Sun, Min; Wang, Ke Zhi; Zhang, Yong An; Jin, Lin Pei; Huang, Chun Hui
CORPORATE SOURCE: State Key Laboratory of Rare Earth Materials Chemistry and Applications, Department of Chemistry, Peking University, Beijing, 100871, Peop. Rep. China
SOURCE: Chemical Physics Letters (2004), 388(1-3), 55-57 CODEN: CHPLBC; ISSN: 0009-2614
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Electroluminescent properties of carzole-functionized complex tris(dibenzoylmethanato)(1-ethyl-2-(N-ethyl-carbazole-yl-4)imidazo[4,5-f]1,10-phenanthroline)europium(III) (Eu(DBM)3Phencarz) was studied. By using complex tris(1-phenyl-3-methyl-4-isobutyl-5-pyrazolone)-bis(tri-Ph phosphine oxide) Gd Gd(PMIP)3(TPPO)2 as electron-transport layer, hole and electron injection was relatively balanced in the emitting layer and a device with the configuration of ITO/TPD (20 nm)/(Eu(DBM)3Phencarz) (40 nm)/Gd(PMIP)3(TPPO) (20 nm)/AlQ (30 nm)/Mg:Ag emitted voltage-independent characteristic Eu light with the luminance of 1193 cd/m2, power efficiency 1.68 lm/W.

IT **625457-04-7**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(voltage-independent pure red devices based on a carbazole-functionalized europium complex)

RN 625457-04-7 CAPLUS
CN Europium, tris(1,3-diphenyl-1,3-propanedionato-κO,κO')[1-ethyl-2-(9-ethyl-9H-carbazol-4-yl)-1H-imidazo[4,5-f][1,10]phenanthroline-κN7,κN8]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

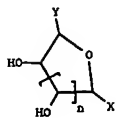
L4 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:220344 CAPLUS
DOCUMENT NUMBER: 140:253815
TITLE: Preparation of nucleoside analogs as protein kinase inhibitors
INVENTOR(S): Meutermans, Wim; Schafer, Karl; West, Michael Leo; Muldoon, Craig; Foley, Fiona; Bouloc, Natalie; Tometzki, Gerald
PATENT ASSIGNEE(S): Alchemia Pty Ltd, Australia
SOURCE: PCT Int. Appl., 132 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004022572	A1	20040318	WO 2003-AU1146	20030905

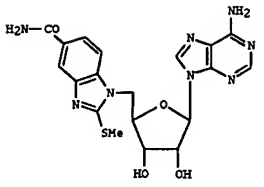
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: AU 2002-951247 A 20020906
OTHER SOURCE(S): MARPAT 140:253815
GI

L4 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



I



II

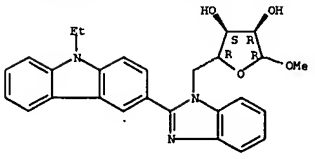
AB A method of inhibiting or effecting the activity of protein kinase activity which comprises contacting a protein kinase with nucleoside analogs I, wherein n is 1, 2; X is selected from the group consisting of: OR1, an unsubstituted 5 or 6 membered heterocyclic moiety, a substituted 5 or 6 membered heterocyclic moiety, an unsubstituted 9 or 10 membered hetero-bicyclic moiety and a substituted 9 or 10 membered hetero-bicyclic moiety, R1 is selected from the group consisting of: alkyl, alkenyl, alkynyl, heteroalkyl, aryl, heteroaryl, arylalkyl and hetero-arylalkyl, Y is selected from the group consisting of an unsubstituted 5 or 6 membered heterocyclic moiety; a substituted 5 or 6 membered heterocyclic moiety, an unsubstituted 9 or 10 membered hetero-bicyclic moiety and a substituted 9 or 10 membered hetero-bicyclic moiety; an amino acid, a dipeptide; is being a derivative of a furanose or pyranose form of a monosaccharide, or a pharmaceutically acceptable salt thereof. Thus, nucleoside II was prepared and tested in vitro as protein kinase inhibitor.

IT **671785-28-7P 671785-52-7P 671785-53-8P**
671786-11-1P
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of nucleoside analogs as protein kinase inhibitors)

RN 671785-28-7 CAPLUS
CN β-D-Ribofuranoside, methyl 5-deoxy-5-[2-(9-ethyl-9H-carbazol-3-yl)-1H-benzimidazol-1-yl]- (9CI) (CA INDEX NAME)

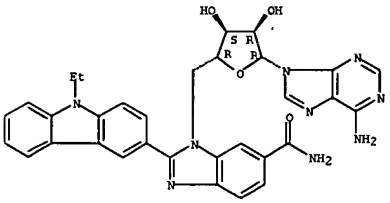
Absolute stereochemistry.

L4 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 671785-52-7 CAPLUS
CN Adenosine, 5'-[6-(aminocarbonyl)-2-(9-ethyl-9H-carbazol-3-yl)-1H-benzimidazol-1-yl]-5'-deoxy- (9CI) (CA INDEX NAME)

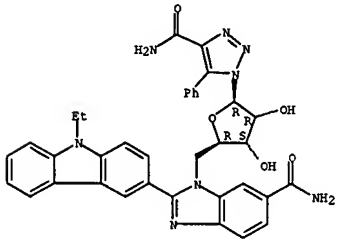
Absolute stereochemistry.



RN 671785-53-8 CAPLUS
CN 1H-1,2,3-Triazole-4-carboxamide, 1-[5-[6-(aminocarbonyl)-2-(9-ethyl-9H-carbazol-3-yl)-1H-benzimidazol-1-yl]-5-deoxy-β-D-ribofuranosyl]-5-phenyl- (9CI) (CA INDEX NAME)

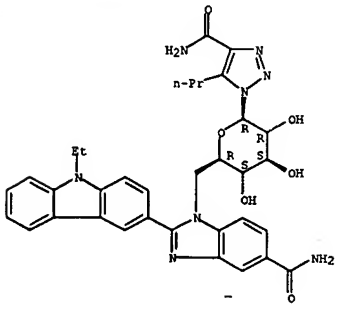
Absolute stereochemistry.

L4 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 671786-11-1 CAPLUS
CN 1H-1,2,3-Triazole-4-carboxamide, 1-[6-[5-(aminocarbonyl)-2-(9-ethyl-9H-carbazol-3-yl)-1H-benzimidazol-1-yl]-6-deoxy-β-D-glucopyranosyl]-5-propyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:108632 CAPLUS
DOCUMENT NUMBER: 140:316714
TITLE: The pH-Induced Emission Switching and Interesting DNA-Binding Properties of a Novel Dinuclear Ruthenium(II) Complex
AUTHOR(S): Liu, Furong; Wang, Kezhi; Bai, Guangyao; Zhang, Yongan; Gao, Lihua
CORPORATE SOURCE: Department of Chemistry, Beijing Normal University, Beijing, 100875, Peop. Rep. China
SOURCE: Inorganic Chemistry (2004), 43(5), 1799-1806
CODEN: INOCAJ; ISSN: 0020-1669
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel dinuclear Ru(II) complex, [(bpy)2Ru(ebipcH2)Ru(bpy)2](ClO4)4, where bpy = 2,2'-bipyridine and ebipcH2 = N-ethyl-4,7-bis([1,10]-phenanthroline[5,6-f]imidazol-2-yl)carbazole, has been newly synthesized. The pH effects on UV-vis absorption and emission spectra of the complex are studied, and ground- and excited-state ionization consts. of the complex are derived. The binding of the complex to calf thymus (ct) DNA is investigated with absorption and luminescence titrns., steady-state emission quenching, and viscosity measurements. The complex acts as a pH-induced "on-off" emission switch between pH 8.0 and pH 10.0 with a . maximum on-off ratio of .apprx.100 which is favorably compared with the other imidazole-containing Ru(II) complex congeners, and a strong ct-DNA intercalator with an intrinsic binding constant of 1.31(±0.08) + 106 M-1 in buffered 50 mM NaCl.

IT 677291-56-4P
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(pH-induced emission switching and interesting DNA-binding properties of novel dinuclear ruthenium(II) complex)
RN 677291-56-4 CAPLUS
CN Ruthenium(4+), tetrakis(2,2'-bipyridine-κN1,κN1')[μ-[2,2'-(9-ethyl-9H-carbazole-3,6-diyl)bis[1H-imidazo[4,5-f][1,10]phenanthroline-κN7,κN8]]]di-, tetraperchlorate, compd. with methanol (1:2), monohydrate (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1
CMF C H4 O

H_3C-OH

CM 2

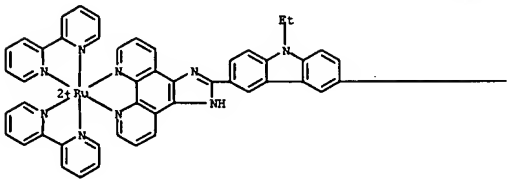
CRN 677291-55-3
CMF C80 H57 N17 Ru2 . 4 Cl O4

CM 3

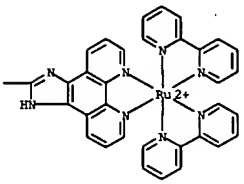
L4 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

CRN 677291-54-2
CMF C80 H57 N17 Ru2
CCI CCS

PAGE 1-A



PAGE 1-B

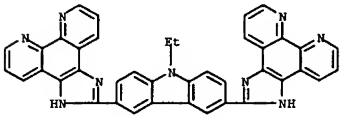


CM 4

CRN 14797-73-0
CMF Cl O4

L4 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

IT 677007-63-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(pH-induced emission switching and interesting DNA-binding properties of novel dinuclear ruthenium(II) complex)
RN 677007-63-5 CAPLUS
CN 1H-Imidazo[4,5-f][1,10]phenanthroline, 2,2'-(9-ethyl-9H-carbazole-3,6-diyl)bis- (9CI) (CA INDEX NAME)

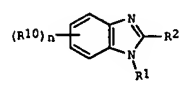


REFERENCE COUNT: 101 THERE ARE 101 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

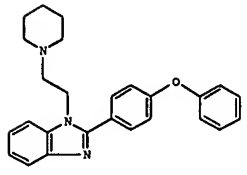
L4 ANSWER 7 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:101142 CAPLUS
DOCUMENT NUMBER: 140:146139
TITLE: Preparation of aryl-substituted benzimidazoles and their use as sodium channel blockers
INVENTOR(S): Sun, Qun; Zhou, Xiaoming; Kyle, Donald J.
PATENT ASSIGNEE(S): Euro-Celtique S.A., Luxembourg
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004011439	A2	20040205	WO 2003-US23828	20030731
WO 2004011439	A3	20040401		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2492305	AA	20040205	CA 2003-2492305	20030731
US 2004132777	A1	20040708	US 2003-630896	20030731

PRIORITY APPLN. INFO.: US 2002-399458P P 20020731
WO 2003-US23828 W 20030731
OTHER SOURCE(S): CASREACT 140:146139; MARPAT 140:146139
GI



I



II

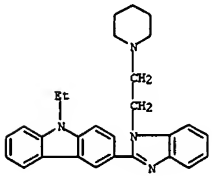
L4 ANSWER 7 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

AB Title compds. I [R1 = alkylene-amino; R2 = phenoxyphenyl, benzyloxyphenyl, phenylthiophenyl, etc.; R10 = H, OH, alkyl, alkoxy, etc.; n = 0-4] are prepared For instance, 1-(2-aminoethyl)piperidine is reacted with 2-fluoronitrobenzene (DMF, i-Pr2NEt) to give 1-(2-(2-nitrophenylamino)ethyl)piperidine. This intermediate is reduced (MeOH, H2-10% Pd/C, 3 atm, 16 h) and reacted with various aldehydes (PhNO2) to give the corresponding benzimidazole, e.g., II. Example compds. are potent blockers of the sodium channel, Ki = 180-1790 nM. I are useful for the treatment of neuronal damage following global and focal ischemia, for the treatment or prevention of neurodegenerative conditions such as amyotrophic lateral sclerosis (ALS) and for the treatment, prevention or amelioration of both acute or chronic pain.

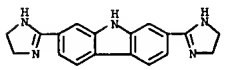
IT **653573-68-3P**, 1-(2-Piperidinylethyl)-2-(N-ethylcarbazol-3-yl)benzimidazole
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of aryl-substituted benzimidazoles and their use as sodium channel blockers)

RN 653573-68-3 CAPLUS

CN 9H-Carbazole, 9-ethyl-3-[1-[2-(1-piperidinyl)ethyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

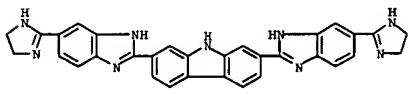


L4 ANSWER 8 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



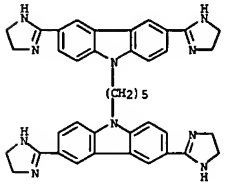
RN 200878-42-8 CAPLUS

CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)



RN 500714-08-9 CAPLUS

CN 9H-Carbazole, 9,9'-(1,5-pentanediyl)bis[3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



L4 ANSWER 8 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:991295 CAPLUS
DOCUMENT NUMBER: 140:35966
TITLE: Amidine derivatives for treating amyloidosis and neurodegenerative diseases
INVENTOR(S): Chalifour, Robert J.; Kong, Xianqi; Wu, Xinfu; Lu, Wenshuo; Tidwell, Richard R.; Boykin, David
PATENT ASSIGNEE(S): University of North Carolina At Chapel Hill, USA; Georgia State University Research Foundation, Inc.
SOURCE: PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003103598	A2	20031218	WO 2003-US17992	20030609
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2488493	AA	20031218	CA 2003-2488493	20030609
US 2004147531	A1	20040729	US 2003-731463	20031205
PRIORITY APPLN. INFO.:			US 2002-387001P P	20020607
			US 2001-316761P P	20010831
			US 2002-234643 A1	20020903
			WO 2003-US17992 W	20030609

AB The present invention relates to the use of amidine compds. in the treatment of amyloid related diseases. In particular, the invention relates to a method of treating or preventing an amyloid-related disease in a subject comprising administering to the subject a therapeutic amount of an amidine compound Among the compds. for use according to the invention are those according to the following Formulas, such that, when administered, amyloid fibril formation, neurodegeneration, or cellular toxicity is reduced or inhibited.

IT **200205-81-8 200878-42-8 500714-08-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of amidine derivs. for treating amyloidosis and neurodegenerative diseases)

RN 200205-81-8 CAPLUS

CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

L4 ANSWER 9 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

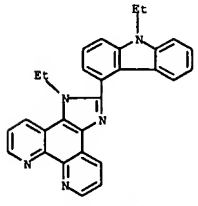
ACCESSION NUMBER: 2003:741331 CAPLUS
DOCUMENT NUMBER: 139:401289
TITLE: Carbazole-functionalized europium complex and its high-efficiency organic electroluminescent properties
AUTHOR(S): Xin, H.; Li, F. Y.; Guan, M.; Huang, C. H.; Sun, M.; Wang, K. Z.; Zhang, Y. A.; Jin, L. P.
CORPORATE SOURCE: State Key Laboratory of Rare Earth Materials Chemistry and Applications, Peking University, Beijing, Peop. Rep. China
SOURCE: Journal of Applied Physics (2003), 94(7), 4729-4731
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Tris(dibenzoylmethanato)(1-Et-2-(N-ethylcarbazolyl-4)imidazo[4,5-f]-1,10-phenanthroline)europium(III) [Eu(DBM)3phencarz] functionalized by a hole-transport group carbazole was synthesized. Devices using this complex as emitter showed greatly enhanced performance benefited from the increased hole-transport properties and efficient energy transfer from carbazole to the central ions. A 58-nm-single-layer device gave a brightness of 20 cd/m2 at 15 V. The highest power efficiency of 2.7 lm/W at 5 V and 0.5 cd/m2 and the luminance >2000 cd/m2 at 20 V was obtained from a device with the configuration of ITO/TPD(20 nm)/Eu(DBM)3phencarz(40 nm)/BCP(20 nm)/AlQ(40 nm)/Mg0.9Ag0.1(200 nm)/Ag(80 nm).

IT **625457-06-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and NMR and reaction with europium dibenzoylmethanato complex)

RN 625457-06-9 CAPLUS

CN 1H-Imidazo[4,5-f][1,10]phenanthroline, 1-ethyl-2-(9-ethyl-9H-carbazol-4-yl)- (9CI) (CA INDEX NAME)

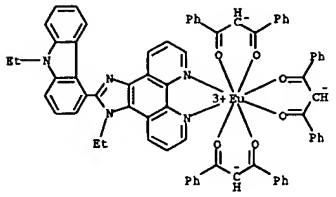


IT **625457-04-7P**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(preparation and electroluminescence of)

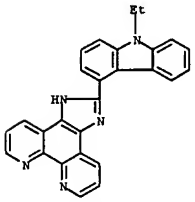
RN 625457-04-7 CAPLUS

CN Europium, tris(1,3-diphenyl-1,3-propanedionato-κO,κO')[1-ethyl-2-(9-ethyl-9H-carbazol-4-yl)-1H-imidazo[4,5-f][1,10]phenanthroline-κN7,κN8]- (9CI) (CA INDEX NAME)

L4 ANSWER 9 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

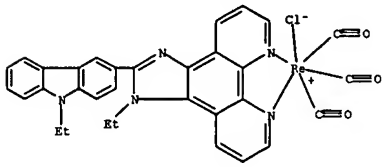


IT 625457-05-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and ethylation of)
RN 625457-05-8 CAPLUS
CN 1H-Imidazo[4,5-f][1,10]phenanthroline, 2-(9-ethyl-9H-carbazol-4-yl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

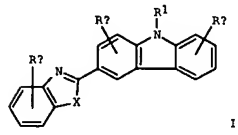
L4 ANSWER 10 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:673626 CAPLUS
DOCUMENT NUMBER: 140:171779
TITLE: Synthesis, characterization and photoelectric properties of a novel carbazole-containing Re(I) complex
AUTHOR(S): Sun, Min; Xin, Hao; Zhang, Yong-An; Wang, Ke-Zhi; Jin, Lin-Pei; Huang, Chun-Hui
CORPORATE SOURCE: Department of Chemistry, Beijing Normal University, Beijing, 100875, Peop. Rep. China
SOURCE: Huaxue Xuebao (2003), 61(8), 1323-1325
CODEN: HHHPA4; ISSN: 0567-7351
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Carbazole-containing Re(CO)3Cl1L (L = 1-Et-2-(N-Et-carbazol-4-yl)imidazo[4,5-f]-1,10-phenanthroline) was characterized by elemental anal., FTIR, UV-visible, 1H NMR and emission spectroscopy, and cyclic voltammetry. The double-layer electroluminescence device of ITO/TPD (30 nm)/Re(CO)3Cl1L (10 nm)/Mg0.9Ag0.1 (110 nm)/Ag (60 nm) fabricated by vacuum-deposition technique was found to emit bright orange-red light with a turn-on voltage of 5 V and a maximum luminance of 113 cd/m2 at a bias voltage of 9 V.
IT 655224-05-8
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(characterization and photoelec. properties of)
RN 655224-05-8 CAPLUS
CN Rhenium, tricarbonylchloro[1-ethyl-2-(9-ethyl-9H-carbazol-3-yl)-1H-imidazo[4,5-f][1,10]phenanthroline-κN7,κN8]-, (OC-6-33)- (9CI) (CA INDEX NAME)



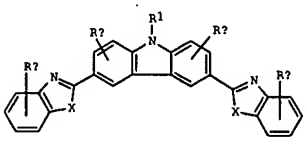
L4 ANSWER 11 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:532189 CAPLUS
DOCUMENT NUMBER: 139:92577
TITLE: Organic EL device
INVENTOR(S): Lin, Tung-Shen; Yeh, Kun-Tay
PATENT ASSIGNEE(S): Lightronik Technology Inc., Taiwan
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003129448	A1	20030710	US 2001-982011	20011019
US 6602619	B2	20030805		
PRIORITY APPLN. INFO.:			US 2001-982011	20011019

OTHER SOURCE(S): MARPAT 139:92577
GI



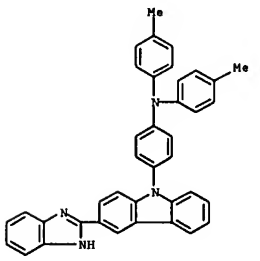
I



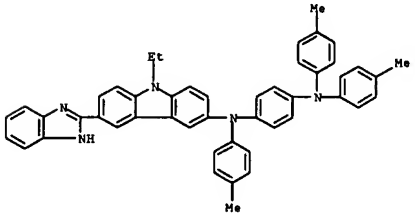
II

AB An organic EL device which contains an anode, a cathode, and at least one organic thin-file layer including a light emitting layer which contains a compound represented I and II, wherein Rl represents a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aromatic hydrocarbon group, a substituted or unsubstituted aromatic heterocyclic group, a substituted or unsubstituted amino group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, or a substituted or unsubstituted alkoxycarbonyl group; and Rx is ≥1 functional groups represented by a H atom, halogen atom, nitro group, cyano group, carboxyl group, or Rl. Any two Rx groups may form a ring. X represents O atom, N atom and S atom. A blue organic EL device can be provided according to the present invention.

L4 ANSWER 11 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
IT 556826-24-5 556826-27-8 556826-30-3
556826-33-6
RL: DEV (Device component use); USES (Uses)
(organic EL device with N-substituted carbazole in light-emitting layer)
RN 556826-24-5 CAPLUS
CN Benzenamine, 4-[3-(1H-benzimidazol-2-yl)-9H-carbazol-9-yl]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

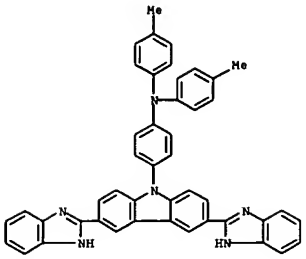


RN 556826-27-8 CAPLUS
CN 1,4-Benzenediamine, N-[6-(1H-benzimidazol-2-yl)-9-ethyl-9H-carbazol-3-yl]-N,N',N'-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)

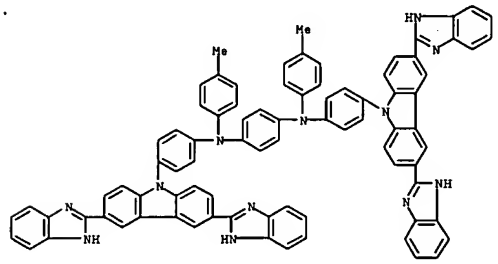


RN 556826-30-3 CAPLUS
CN Benzenamine, 4-[3,6-bis(1H-benzimidazol-2-yl)-9H-carbazol-9-yl]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 556826-33-6 CAPLUS
CN 1,4-Benzenediamine, N,N'-bis[4-[3,6-bis(1H-benzimidazol-2-yl)-9H-carbazol-9-yl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



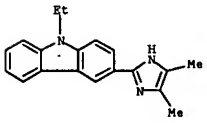
L4 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:405934 CAPLUS
DOCUMENT NUMBER: 139:245867
TITLE: Structure-activity relationships in a series of NPY Y5 antagonists: 3-amido-9-ethylcarbazoles, core-modified analogues and amide isosteres
AUTHOR(S): Hammond, Marlys; Elliott, Richard L.; Gillaspy, Melissa L.; Hager, David C.; Hank, Richard F.; LaFlamme, Janet A.; Oliver, Robert M.; Da Silva-Jardine, Paul A.; Stevenson, Ralph W.; Mack, Christine M.; Cassella, James V.
CORPORATE SOURCE: Department of Cardiovascular and Metabolic Diseases, Pfizer Global Research and Development, Groton, CT, 06340, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (2003), 13(12), 1989-1992
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:245867

AB Beginning with carbazole, the amide and alkyl substituents were optimized to maintain potency while adding solubilizing groups. Efforts to replace the 3-amino-9-ethylcarbazole core, a known carcinogen, used the structure-activity relationships (SAR) generated in the carbazole series for guidance and led to the synthesis of a number of core-modified analogs. In addition, an isosteric series, in which the amide was replaced with an imidazole, was prepared Two potent new series lacking the putative toxicophore were identified from these endeavors.

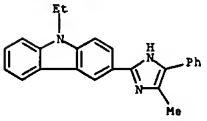
IT **596821-99-7P 596822-00-3P 596822-01-4P**
596822-02-5P 596822-03-6P 596822-04-7P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(multi-step preparation and structure-activity relationships of amidoethylcarbazoles, core-modified analogs and amide isosteres as NPY Y5 antagonists)

RN 596821-99-7 CAPLUS
CN 9H-Carbazole, 3-(4,5-dimethyl-1H-imidazol-2-yl)-9-ethyl- (9CI) (CA INDEX NAME)

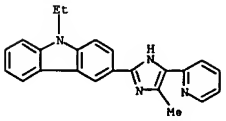


RN 596822-00-3 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(4-methyl-5-phenyl-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

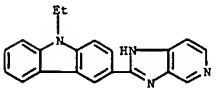
L4 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



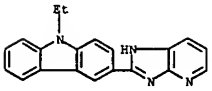
RN 596822-01-4 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-[4-methyl-5-(2-pyridinyl)-1H-imidazol-2-yl]- (9CI) (CA INDEX NAME)



RN 596822-02-5 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(1H-imidazo[4,5-c]pyridin-2-yl)- (9CI) (CA INDEX NAME)

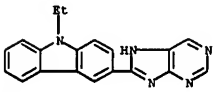


RN 596822-03-6 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(1H-imidazo[4,5-b]pyridin-2-yl)- (9CI) (CA INDEX NAME)



RN 596822-04-7 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(1H-purin-8-yl)- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



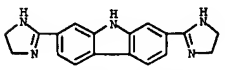
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:250479 CAPLUS
DOCUMENT NUMBER: 140:38649
TITLE: Application of molecular topology to the prediction of antifungal activity for a set of dication-substituted carbazoles, furans and benzimidazoles
AUTHOR(S): Garcia-Domenech, R.; Rios-Santamarina, I.; Catala, A.; Calabuig, C.; del Castillo, L.; Galvez, J.
CORPORATE SOURCE: Facultat de Farmacia, Unidad de Investigacion de Conectividad Molecular y Diseno de Farmacos, Departamento de Quimica Fisica, Universitat de Valencia, Valencia, Spain
SOURCE: THEOCHEM (2003), 624, 97-107
CODEN: THEODJ; ISSN: 0166-1280
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

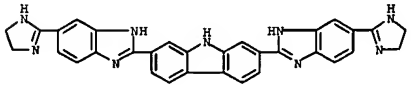
AB In this paper, the endpoint is the application of mol. topol. to the search of QSAR relations into a group of dication-substituted carbazoles, furans and benzimidazoles, all showing antifungal activity against C. albicans. Math. and statistical methods such as linear regression and discriminant anal., are used. The results clearly show a high efficiency of the formalism on the prediction and classification of antifungal activity. Some 83% of the compds. showing MIC <10 μg/mL (active group) are correctly classified, while 100% overall accuracy is achieved for those compds. showing MIC >100 μg/mL (inactive group).

IT 200205-81-8
RL: BSU (Biological study, unclassified); BIOL (Biological study) (3mol. topol. in relation to antifungal activity for a set of dication-substituted carbazoles, furans, and benzimidazoles)
RN 200205-81-8 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

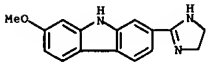


IT 200205-80-7 200878-35-9 200878-39-3 200878-41-7 200878-42-8 200878-43-9 200878-44-0 635683-36-2
RL: BSU (Biological study, unclassified); BIOL (Biological study) (mol. topol. in relation to antifungal activity for a set of dication-substituted carbazoles, furans, and benzimidazoles)
RN 200205-80-7 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

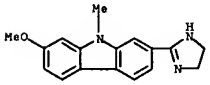
L4 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



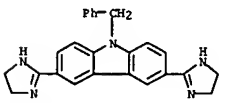
RN 200878-43-9 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy- (9CI) (CA INDEX NAME)



RN 200878-44-0 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-9-methyl- (9CI) (CA INDEX NAME)

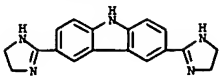


RN 635683-36-2 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-(phenylmethyl)- (9CI) (CA INDEX NAME)

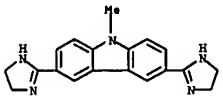


REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

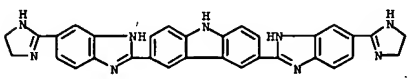
L4 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



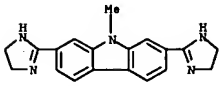
RN 200878-35-9 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)



RN 200878-39-3 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)



RN 200878-41-7 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)



RN 200878-42-8 CAPLUS
CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

L4 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:203407 CAPLUS
DOCUMENT NUMBER: 138:238181
TITLE: Preparation of substituted 1-cyclohexyl-2-phenylbenzimidazole-5-carboxylic acids as remedies for hepatitis C
INVENTOR(S): Hashimoto, Hiromasa; Mizutani, Kenji; Yoshida, Atsuhito
PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan
SOURCE: U.S. Pat. Appl. Publ., 406 pp., Cont.-in-part of Appl. No. PCT/JP00/09181.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003050320	A1	20030313	US 2001-939374	20010824
US 6770666	B2	20040803		
WO 2001047883	A1	20010705	WO 2000-JP9181	20001222
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
JP 2001247550	A2	20010911	JP 2000-391904	20001225
ZA 2003001393	A	20040715	ZA 2003-1393	20020626
US 2004097438	A1	20040520	US 2003-615329	20030708
PRIORITY APPLN. INFO.:			JP 1999-369008	A 19991227
			WO 2000-JP9181	A2 20001222
			JP 2000-391904	A 20001225
			JP 2001-193786	A 20010626
			US 2001-939374	A3 20010824

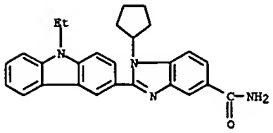
OTHER SOURCE(S): MARPAT 138:238181
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. I [the dotted line in rings B1 and B2 indicates a single or double bond; G1 = N, CR1; G2 = N, CR2, G3 = N, CR3; G4 = N, CR4; G5, G6, G8, G9 = C, N; G7 = O, S, CR7, etc.; R1-R4 = H, NO2, etc.; ring Cy = (un)substituted cycloalkyl ring, etc.; ring A = Ph, cycloalkyl, etc. R5, R6 = H, halo, etc.; X = H, CN, etc.; R7 = H, alkyl] are prepared and formulated. Compds. I showed HCV polymerase inhibitory activity (data given). E.g., a multi-step synthesis of II.HCl, starting from 2-bromo-5-nitrotoluene and Me 2-(2-fluoro-4-hydroxyphenyl)-1-cyclohexylbenzimidazole-5-carboxylate, was given.

IT 347168-06-3P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

L4 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
(prepn. of substituted 1-cyclohexyl-2-phenylbenzimidazole-5-carboxylic acids as remedies for hepatitis C)
RN 347168-06-3 CAPLUS
CN 1H-Benzimidazole-5-carboxamide, 1-cyclopentyl-2-(9-ethyl-9H-carbazol-3-yl)- (9CI) (CA INDEX NAME)



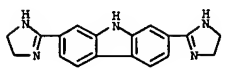
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:173414 CAPLUS
DOCUMENT NUMBER: 138:215350
TITLE: Amidine derivatives for treating amyloid-related diseases
INVENTOR(S): Chalifour, Robert J.; Kong, Xianqi; Wu, Xinfu; Lu, Wenshuo
PATENT ASSIGNEE(S): Neurochem Inc., Can.
SOURCE: PCT Int. Appl., 114 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

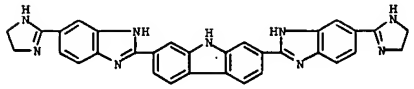
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003017994	A1	20030306	WO 2002-CA1353	20020903
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2455497	AA	20030306	CA 2002-2455497	20020903
US 2004006092	A1	20040108	US 2002-234643	20020903
EP 1420773	A1	20040526	EP 2002-758012	20020903
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
BR 2002012078	A	20040928	BR 2002-12078	20020903
JP 2005504053	T2	20050210	JP 2003-522514	20020903
US 2004147531	A1	20040729	US 2003-731463	20031205
PRIORITY APPLN. INFO.:			US 2001-316761P P	20010831
			US 2002-387001P P	20020607
			US 2002-234643 A1	20020903
			WO 2002-CA1353 W	20020903

OTHER SOURCE(S): MARPAT 138:215350
AB The invention discloses the use of amidine compds. in the treatment of amyloid-related diseases (e.g. Alzheimer's disease, Down's syndrome, type II diabetes). In particular, the invention discloses a method for treating or preventing an amyloid-related disease in a subject comprising administering to the subject a therapeutic amount of an amidine compound
The
compds. of the invention (Markush included) are such that, when administered, reduce or inhibit amyloid fibril formation, neurodegeneration, or cellular toxicity. Compound preparation is described.
IT 200205-81-8 200878-42-8 500714-08-9
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amidine derivs. for treating amyloid-related diseases)
RN 200205-81-8 CAPLUS

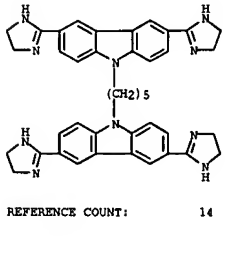
L4 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



RN 200878-42-8 CAPLUS
CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

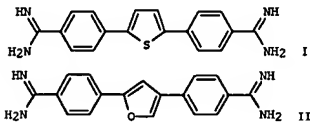


RN 500714-08-9 CAPLUS
CN 9H-Carbazole, 9,9'-(1,5-pentanediyl)bis[3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



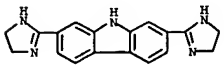
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:146280 CAPLUS
DOCUMENT NUMBER: 136:321920
TITLE: Antileishmanial activities of several classes of aromatic dications
AUTHOR(S): Brendle, James J.; Outlaw, Abram; Kumar, Arvind; Boykin, David W.; Patrick, Donald A.; Tidwell, Richard R.; Werbovetz, Karl A.
CORPORATE SOURCE: Division of Experimental Therapeutics, Walter Reed Army Institute of Research, Silver Spring, MD, 20910, USA
SOURCE: Antimicrobial Agents and Chemotherapy (2002), 46(3), 797-807
CODEN: AMACCQ; ISSN: 0066-4804
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

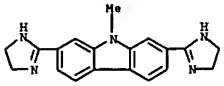


AB Aromatic dicationic mols. possess impressive activity against a broad spectrum of microbial pathogens, including Pneumocystis carinii, Cryptosporidium parvum, and Candida albicans. In this work, 58 aromatic cations were examined for inhibitory activity against axenic amastigote-like Leishmania donovani parasites. In general, the most potent of the compds. were substituted di-Ph furan and thiophene dications.
2,5-Bis-(4-amidinophenyl)thiophene (I) was the most active compound This agent displayed a 50% inhibitory concentration (IC50) of 0.42 ± 0.08 μM against L. donovani and an in vitro antileishmanial potency 6.2-fold greater than that of the clin. antileishmanial dication pentamidine and was 155-fold more toxic to the parasites than to a mouse macrophage cell line. 2,4-Bis-(4-amidinophenyl)furan (II) was twice as active as pentamidine (IC50, 1.30 ± 0.21 μM), while 2,5-bis-(4-amidinophenyl)furan and pentamidine were essentially equipotent in our in vitro antileishmanial assay. Carbazoles, dibenzofurans, dibenzothiophenes, and benzimidazoles containing amidine or substituted amidine groups were generally less active than the di-Ph furans and thiophenes. In all cases, aromatic dications possessing strong antileishmanial activity were several-fold more toxic to the parasites than to a cultured mouse macrophage cell line. These structure-activity relationships demonstrate the potent antileishmanial activity of several aromatic dications and provide valuable information for the future design
and
synthesis of more potent antiparasitic agents.
IT 200205-81-8 200878-41-7 200878-43-9
200878-44-0 415717-96-3 415718-04-6
RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antileishmanial activities of several classes of aromatic dications)

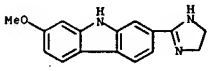
L4 ANSWER 16 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
RN 200205-81-8 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



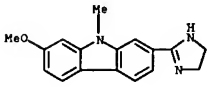
RN 200878-41-7 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)



RN 200878-43-9 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy- (9CI) (CA INDEX NAME)

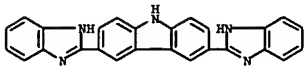


RN 200878-44-0 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-9-methyl- (9CI) (CA INDEX NAME)

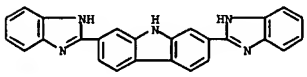


RN 415717-96-3 CAPLUS
CN 9H-Carbazole, 3,6-bis(1H-benzimidazol-2-yl)- (9CI) (CA INDEX NAME)

L4 ANSWER 16 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 415718-04-6 CAPLUS
CN 9H-Carbazole, 2,7-bis(1H-benzimidazol-2-yl)- (9CI) (CA INDEX NAME)



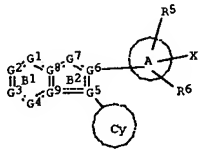
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:489367 CAPLUS
DOCUMENT NUMBER: 135:76874
TITLE: Preparation of heterocyclic compounds as remedies for hepatitis C
INVENTOR(S): Hashimoto, Hiromasa; Mizutani, Kenji; Yoshida, Atsuhito
PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan
SOURCE: PCT Int. Appl., 438 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001047883	A1	20010705	WO 2000-JP9181	20001222
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2363274	AA	20010705	CA 2000-2363274	20001222
EP 1162196	A1	20011212	EP 2000-987728	20001222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000008525	A	20020102	BR 2000-8525	20001222
TR 200103147	T1	20020621	TR 2001-200103147	20001222
NZ 514403	A	20021025	NZ 2000-514403	20001222
AU 763356	B2	20030717	AU 2001-24017	20001222
RU 2223761	C2	20040220	RU 2001-126283	20001222
NO 2001004134	A	20011022	NO 2001-4134	20010824
US 2003050320	A1	20030313	US 2001-939374	20010824
US 6770666	B2	20040803		
ZA 2001007870	A	20020925	ZA 2001-7870	20010928
US 2004097438	A1	20040520	US 2003-615329	20030708
PRIORITY APPLN. INFO.:			JP 1999-369008 A	19991227
			WO 2000-JP9181 W	20001222
			JP 2000-391904 A	20001225
			JP 2001-193786 A	20010626
			US 2001-939374 A3	20010824

OTHER SOURCE(S): MARPAT 135:76874
GI

L4 ANSWER 17 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



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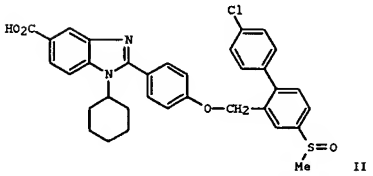
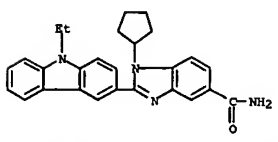


II

AB The title compds. I (the dotted line in rings B1 and B2 indicates a single or double bond; G1 = N, CR1; G2 = N, CR2, G3 = N, CR3; G4 = N, CR4; G5, G6, G8, G9 = C, N; G7 = O, etc.; R1 - R4 = H, nitro, etc.; ring Cy = (un)substituted cycloalkyl ring, etc.; ring A = C3-C8 cycloalkyl, etc. R5, R6 = H, halo, etc.; X = H, cyano, etc.] are prepared The benzimidazole derivative II in vitro showed IC50 of 0.011 μM against hepatitis C virus polymerase. A formulation is given.
IT 347168-06-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of heterocyclic compds. as remedies for hepatitis C)
RN 347168-06-3 CAPLUS
CN 1H-Benzimidazole-5-carboxamide, 1-cyclopentyl-2-(9-ethyl-9H-carbazol-3-yl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

L4 ANSWER 18 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

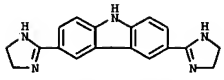
ACCESSION NUMBER: 2000:605930 CAPLUS
DOCUMENT NUMBER: 133:317223
TITLE: Effects of Compound Structure on Carbazole Dication-DNA Complexes: Tests of the Minor-Groove Complex Models
AUTHOR(S): Tanious, Farial A.; Ding, Daoyuan; Patrick, Donald A.; Bailly, Christian; Tidwell, Richard R.; Wilson, W. David
CORPORATE SOURCE: Department of Chemistry and Laboratory for Chemical and Biological Sciences, Georgia State University, Atlanta, GA, 30303, USA
SOURCE: Biochemistry (2000), 39(39), 12091-12101
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Carbazole dications have shown excellent activity against opportunistic infections, but they are quite different in structure from previously studied unfused aromatic cations that function by targeting the DNA minor groove. In a previous report [Tanious, F. A., Ding, D., Patrick, D. A., Tidwell, R. R., and Wilson, W. D. (1997) Biochem. 36, 15315-15325] the authors showed that, despite their fused ring structure, the carbazoles also bind in A/T sequences of the DNA minor groove and the authors proposed models for the carbazole-DNA complexes with the carbazole nitrogen facing out of the groove for 3,6 substituted compds. but into the groove in 2,7 carbazoles. To test and refine the models, carbazole-N-Me substituted derivs. have been synthesized in both the 3,6 and 2,7 series as well as a new 2,6 substituted NH derivative that is intermediate in structure. Footprinting results indicate a broad AT specificity of carbazole binding and a pattern in agreement with a minor groove complex. Surface plasmon resonance biosensor anal. of carbazole binding to an oligomer with an AATT central sequence indicated that the 2,7 NH compound has the largest binding constant Both the 3,6 NH and NMe compds. bind with similar equilibrium consts. that are less than for the 2,7 NH compound The 2,7
NMe compound has the lowest binding constant of all the carbazoles. Spectroscopic results are also similar for the two 3,6 derivs. but are quite different for the 2,7 NH and NMe carbazole dications. Structural anal. of carbazole complexes with an AATT sequence by 2D NMR methods also supported a minor groove complex of the carbazoles in orientations in agreement with the previously proposed models. From these results, it is clear that the fused ring carbazoles can bind strongly in the DNA minor groove with a broad A/T specificity and that the 2,7 and 3,6 substituted carbazoles bind to the minor groove in opposite orientations.

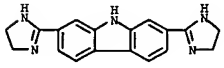
IT 200205-80-7 200205-81-8 200878-41-7
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(effects of compound structure on carbazole dication-DNA complexes and tests of minor-groove complex models)

RN 200205-80-7 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

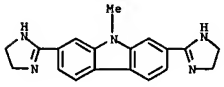
L4 ANSWER 18 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 200205-81-8 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



RN 200878-41-7 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)



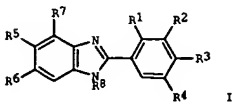
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 19 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:184240 CAPLUS
DOCUMENT NUMBER: 130:209707
TITLE: Preparation of 2-substituted phenyl-benzimidazole antibacterial agents
INVENTOR(S): Ohemeng, Kwasi Adomako; Nguyen, Van Nhatton
PATENT ASSIGNEE(S): Ortho-McNeil Pharmaceutical, Inc., USA
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9911627	A1	19990311	WO 1998-US18586	19980904
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 5942532	A	19990824	US 1997-924558	19970905
AU 9893054	A1	19990322	AU 1998-93054	19980904
PRIORITY APPLN. INFO.:			US 1997-924558 A	19970905
			WO 1998-US18586 W	19980904

OTHER SOURCE(S): MARPAT 130:209707
GI



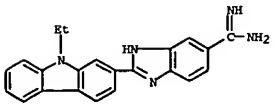
I

AB Benzimidazoles I [R1 = H, OH, alkoxy; R2, R3, R4 = H, OH, alkyl, CF3, halo, etc.; R5 = H, amino, amidino; R6 = nitro, C(NHR9):NR10; R7 = H, amino, nitro; R8 = H, Me], antibacterial compds., were prepared These compds. are effective in inhibiting the action of a bacterial histidine protein kinase and are useful as anti-infective agents against a variety of bacterial organisms, including organisms which are resistant to other known antibiotics. E.g., 3,4-diaminobenzimidate, prepared from 3,4-diaminobenzonitrile, was treated with NH3/EtOH, then with 4-Me3CC6H4CHO to give 2-[4-(1,1-dimethylethyl)phenyl]-2H-benzimidazole-5-carboximidamide.

IT 220955-47-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of phenylbenzimidazoles as antibacterial agents)

RN 220955-47-5 CAPLUS
CN 1H-Benzimidazole-5-carboximidamide, 2-(9-ethyl-9H-carbazol-2-yl)- (9CI)

L4 ANSWER 19 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
(CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:719813 CAPLUS
DOCUMENT NUMBER: 130:90117
TITLE: Comparative efficacy evaluation of dicationic carbazole compounds, nitazoxanide, and paromomycin against Cryptosporidium parvum infections in a neonatal mouse model
AUTHOR(S): Blagburn, Byron L.; Drain, Kathryn L.; Land, Tracey M.; Kinard, Rachel G.; Moore, P. Hutton; Lindsay, David S.; Patrick, Donald A.; Boykin, David W.; Tidwell, Richard R.
CORPORATE SOURCE: Department of Pathobiology, College of Veterinary Medicine, Auburn University, Auburn, AL, 36849-5519, USA
SOURCE: Antimicrobial Agents and Chemotherapy (1998), 42(11), 2877-2882
CODEN: AMACCQ; ISSN: 0066-4804
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

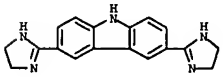
AB The efficacies of dicationic carbazole compds., nitazoxanide (NTZ), and paromomycin were evaluated against the AUCp1 isolate of Cryptosporidium parvum by using a neonatal mouse model. Compds. were solubilized or suspended in deionized water and administered orally by gavage to neonatal mice at a constant dose rate on days 0 to 5 (treatment started on day 0). Dose rates varied for individual carbazole compds. but ranged from 0.65 to 20 mg/kg of body weight NTZ was tested at 100 and 150 mg/kg, and paromomycin was tested at 50 mg/kg. Efficacies were determined by comparing nos. of oocysts present in treated vs. control mice at necropsy examination on day 6. Demonstrable efficacy was observed for several carbazole compds., based on significant redns. in the nos. of oocysts recovered from treated mice vs. control mice. Compds. 1, 7, and 10 (19.0 mg/kg) reduced oocyst passage in treated mice to less than 5% of that in control mice. Treatment with compds. 6, 8, and 9 (17.0 mg/kg) resulted in redns. of oocyst output to less than 10% of that in controls. Although they were not comparable in efficacy to compds. 1, 6, 7, 8, 9, and 10, treatment with other carbazole compds. resulted in statistically significant redns. in oocyst output in treated vs. control mice. Compound 1 retained efficacy resulted in reduction of oocyst output to approx. 6% of that in controls when the dose was reduced to 5 mg/kg. Further redns. in the dose rate resulted in considerable redns. in anticryptosporidial activity. Likewise, the efficacies of compds. 9 and 10 were reduced substantially when the doses were lowered to one-half the screening dose. Paromomycin yielded excellent activity (reduction of oocyst output to <2% of that in controls) at a dose of 50 mg/kg. NTZ yielded moderate efficacy as powder and injectable formulations administered at 100 mg/kg orally (reduction of oocyst output to 42 and 26% of that in controls, resp.). Oral administration of the injectable formulation of NTZ at a dose of 150 mg/kg resulted in improved efficacy (oocyst output, <5% of that in controls).

IT **186192-89-2 186192-90-5 186192-91-6 186192-94-9 186192-96-1 200878-55-3**

L4 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

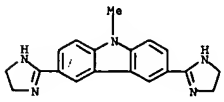
200878-57-5 200878-58-6 219483-73-5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(comparative efficacy evaluation of dicationic carbazole compds. and nitazoxanide and paromomycin against Cryptosporidium parvum infections in a neonatal mouse model)

RN 186192-89-2 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

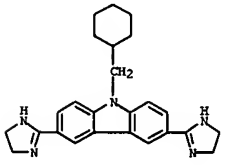
RN 186192-90-5 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

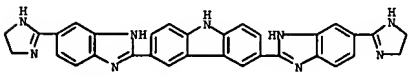
RN 186192-91-6 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



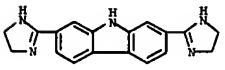
●2 HCl

RN 186192-94-9 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]-, tetrahydrochloride (9CI) (CA INDEX NAME)



●4 HCl

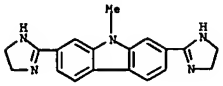
RN 186192-96-1 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

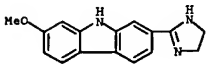
RN 200878-55-3 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl-, dihydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



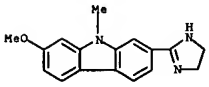
● 2 HCl

RN 200878-57-5 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

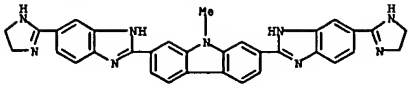
RN 200878-58-6 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-9-methyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 219483-73-5 CAPLUS
CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]-9-methyl-, tetrahydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

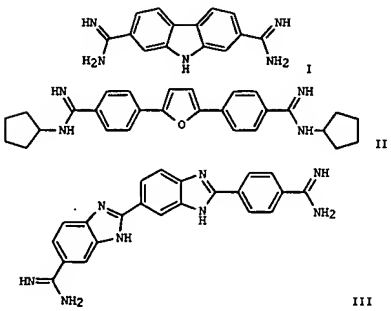


● 4 HCl

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:664986 CAPLUS
DOCUMENT NUMBER: 130:22621
TITLE: In vitro antifungal activities of a series of dication-substituted carbazoles, furans, and benzimidazoles
AUTHOR(S): Del Poeta, Maurizio; Schell, Wiley A.; Dykstra, Christine C.; Jones, Susan K.; Tidwell, Richard R.; Kumar, Arvind; Boykin, David W.; Perfect, John R.
CORPORATE SOURCE: Department of Medicine, Division of Infectious Diseases and International Health, Duke University Medical Center, Durham, NC, 27710, USA
SOURCE: Antimicrobial Agents and Chemotherapy (1998), 42(10), 2503-2510
CODEN: AMACCQ; ISSN: 0066-4804
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

II

III

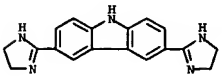
AB Aromatic dicationic compds. possess antimicrobial activity against a wide range of eucaryotic pathogens, and in the present study an examination of the structures-functions of a series of compds. against fungi was performed. Sixty-seven dicationic mols. were screened for their inhibitory and fungicidal activities against Candida albicans and Cryptococcus neoformans. The MICs of a large number of compds. were comparable to those of the standard antifungal drugs amphotericin B and fluconazole. Unlike fluconazole, potent inhibitory compds. in this series were found to have excellent fungicidal activities. Broad-spectrum activities were observed for the carbazole I, the furan II, and the benzimidazole III. The MIC of III, one of the most potent compds., against C. albicans was 0.39 μg/mL, and it was the most potent compound against C. neoformans (MIC, ≤0.09

L4 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

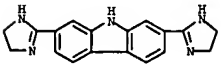
μg/mL). Selected compds. were also found to be active against Aspergillus fumigatus, Fusarium solani, Candida species other than C. albicans, and fluconazole-resistant strains of C. albicans and C. neoformans. Since of these compds. have been safely given to animals, these classes of mols. have the potential to be developed as antifungal agents.

IT 200205-80-7 200205-81-8 200878-35-9
200878-36-0 200878-39-3 200878-41-7
200878-42-8 200878-43-9 200878-44-0
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in vitro antifungal activities of a series of dication-substituted carbazoles, furans, and benzimidazoles)

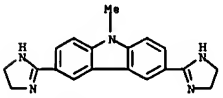
RN 200205-80-7 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



RN 200205-81-8 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

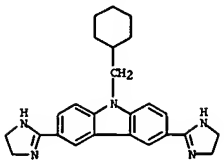


RN 200878-35-9 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)

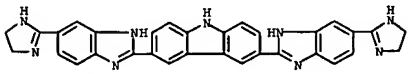


RN 200878-36-0 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

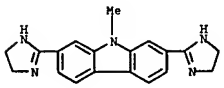
L4 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



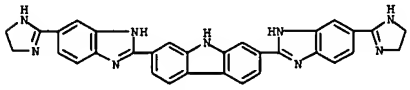
RN 200878-39-3 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)



RN 200878-41-7 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)

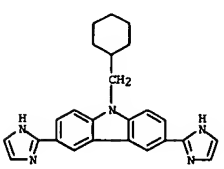


RN 200878-42-8 CAPLUS
CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

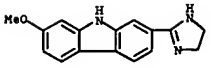


RN 200878-43-9 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy- (9CI) (CA INDEX NAME)

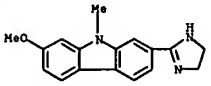
L4 ANSWER 22 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:159773 CAPLUS
DOCUMENT NUMBER: 128:241723
TITLE: Identification and characterization of an endo/exonuclease in Pneumocystis carinii that is inhibited by dicationic diarylfurans with efficacy against Pneumocystis pneumonia
AUTHOR(S): Hildebrandt, Ellen; Beykin, David W.; Kumar, Arvind; Tidwell, Richard R.; Dykstra, Christine C.
CORPORATE SOURCE: Department of Pathobiology, College of Veterinary Medicine, Auburn University, Auburn, AL, 36849, USA
SOURCE: Journal of Eukaryotic Microbiology (1998), 45(1), 112-121
CODEN: JEMIED; ISSN: 1066-5234
PUBLISHER: Society of Protozoologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Dicationic diarylfurans and dicationic carbazoles are under development as therapeutic agents against opportunistic infections. While their ability to bind to the minor groove of DNA has been established, the complete mechanism of action has not. We demonstrate here that an effective diarylfuran, 2,5-bis[4-(N-isopropylguanyl)phenyl]furan, inhibits an endo/exonuclease activity present in Pneumocystis carinii, Cryptococcus neoformans, Candida albicans, and Saccharomyces cerevisiae. This activity was purified from the particulate fraction of P. carinii. The enzyme requires Mg2+ or Mn2+, and shows preferences for single- over double-stranded DNA and for AT-rich over GC-rich domains. A panel of 12 dicationic diarylfurans and eight dicationic carbazoles, previously synthesized, were evaluated for inhibition of the purified nuclease and for efficacy against Pneumocystis pneumonia in rats. Among the diarylfurans, potency of nuclease inhibition, in vivo antimicrobial activity, and DNA binding strength were all strongly correlated ($p < 0.001$). These findings suggest that one target for antimicrobial action of the diarylfurans may be a nucleolytic or other event requiring unpairing of DNA strands. Dicationic carbazoles which were strong nuclease inhibitors all displayed anti-Pneumocystis activity in vivo, but there were also noninhibitory carbazoles with in vivo efficacy.
IT 205122-88-9
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fungicidal activity of dicationic carbazoles against Pneumocystis carinii)
RN 205122-88-9 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-di-1H-imidazol-2-yl- (9CI) (CA INDEX NAME)



L4 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



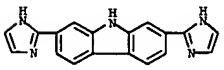
RN 200878-44-0 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-9-methyl- (9CI) (CA INDEX NAME)



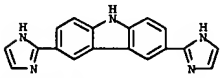
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 22 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

IT 205122-86-7 205122-87-8
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and characterization of an endo/exonuclease in Pneumocystis carinii that is inhibited by dicationic diarylfurans with efficacy against Pneumocystis pneumonia)
RN 205122-86-7 CAPLUS
CN 9H-Carbazole, 2,7-di-1H-imidazol-2-yl- (9CI) (CA INDEX NAME)



RN 205122-87-8 CAPLUS
CN 9H-Carbazole, 3,6-di-1H-imidazol-2-yl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

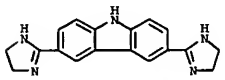
L4 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:752570 CAPLUS
DOCUMENT NUMBER: 128:84031
TITLE: Anti-Pneumocystis carinii pneumonia activity of dicationic carbazoles
AUTHOR(S): Patrick, D. A.; Boykin, D. W.; Wilson, W. D.; Tanious, F. A.; Spychala, J.; Bender, B. C.; Hall, J. E.; Dykstra, C. C.; Ohemeng, K. A.; Tidwell, R. R.
CORPORATE SOURCE: Department of Pathology and Laboratory Medicine, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599, USA
SOURCE: European Journal of Medicinal Chemistry (1997), 32(10), 781-793
CODEN: EJMCA5; ISSN: 0223-5234
PUBLISHER: Editions Scientifiques et Medicales Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of 2,7- and 3,6-bis cationic carbazoles was synthesized and evaluated for activity against a rat model of Pneumocystis carinii pneumonia (PCP). The compds. were also tested for inhibition of topoisomerase II and binding to DNA. Several of the compds. proved to be more potent and less toxic than a standard anti-PCP drug (pentamidine). While no quant. correlation was seen between anti-PCP activity, topoisomerase inhibition and DNA binding, a minimal level of DNA binding was found to be necessary for antimicrobial activity.

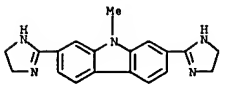
IT 200205-80-7P 200205-81-8P 200878-35-9P 200878-36-0P 200878-39-3P 200878-41-7P 200878-42-8P 200878-43-9P 200878-44-0P
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and antibacterial activity against Pneumocystis carinii pneumonia of dicationic carbazoles)

RN 200205-80-7 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

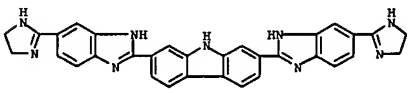


RN 200205-81-8 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

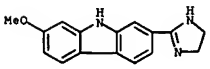
L4 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



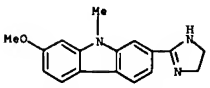
RN 200878-42-8 CAPLUS
CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)



RN 200878-43-9 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy- (9CI) (CA INDEX NAME)



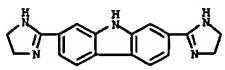
RN 200878-44-0 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-9-methyl- (9CI) (CA INDEX NAME)



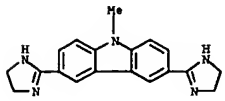
IT 186192-89-2P 186192-90-5P 186192-91-6P 186192-94-9P 186192-96-1P 200878-55-3P 200878-56-4P 200878-57-5P 200878-58-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and antibacterial activity against Pneumocystis carinii pneumonia of dicationic carbazoles)

RN 186192-89-2 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)

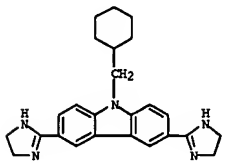
L4 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



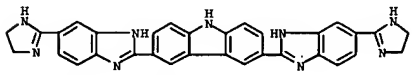
RN 200878-35-9 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)



RN 200878-36-0 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

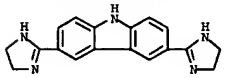


RN 200878-39-3 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)



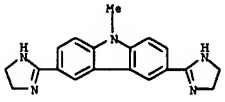
RN 200878-41-7 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)

L4 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



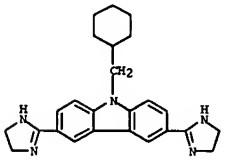
●2 HCl

RN 186192-90-5 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

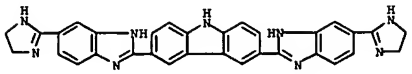
RN 186192-91-6 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

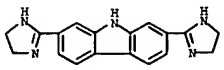
RN 186192-94-9 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]-, tetrahydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



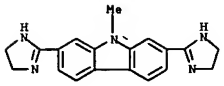
●4 HCl

RN 186192-96-1 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

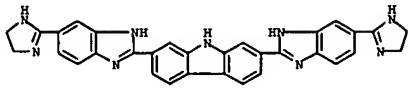
RN 200878-55-3 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

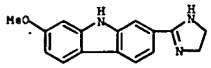
RN 200878-56-4 CAPLUS
CN 9H-Carbazole, 2,7-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]-, tetrahydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



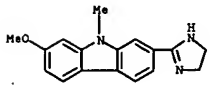
●4 HCl

RN 200878-57-5 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 200878-58-6 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)-7-methoxy-9-methyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 24 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

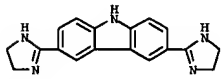
ACCESSION NUMBER: 1997:734666 CAPLUS
DOCUMENT NUMBER: 128:57097
TITLE: A New Type of DNA Minor-Groove Complex: Carbazole Dication-DNA Interactions
AUTHOR(S): Tanious, Farial A.; Ding, Daoyuan; Patrick, Donald A.; Tidwell, Richard R.; Wilson, W. David
CORPORATE SOURCE: Department of Chemistry and Laboratory for Chemical and Biological Sciences, Georgia State University, Atlanta, GA, 30303, USA
SOURCE: Biochemistry (1997), 36(49), 15315-15325
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effect of opportunistic infections (OI) on immune-compromised populations has been known for decades, but the recent AIDS epidemic has sparked renewed interest in the development of new anti-OI agents. The mechanism of action of a series of cationic unfused-aromatic anti-OI drugs is believed to involve binding of the drug to AT sequences in the minor groove of DNA. Some new anti-OI drug candidates have been synthesized with fused aromatic ring systems (e.g. carbazoles) that do not resemble the classical paradigm for minor-groove interactions at AT sequences in DNA. To characterize the DNA interactions of these compds., we have used UV vis absorbance, fluorescence, kinetic measurements, and CD in conjunction with NMR spectroscopy to evaluate the structure of the complexes formed between the carbazoles and DNA. Application of these methods to carbazoles substituted at either the 3,6 or 2,7 positions with cationic imidazoline groups gave conclusive, but very surprising, evidence that both compds. bind strongly in the minor groove at AT DNA sequences. NMR and mol. modeling of the complexes formed between the 3,6- and 2,7-carbazoles and the self-complementary oligomer d(GCGAATTCGC) have been used to establish structural details for the minor-groove complex. These results have been used as constraints for mol. modeling calcns. to construct models of the minor-groove-carbazole complexes and to draw conclusions regarding the mol. basis for the effects of substituent position on carbazole-DNA affinities. The surprising result is that the 2,7 carbazole binds in AT sequences with hydrogen bonds involving one imidazoline group and the carbazole NH. The 3,6-carbazole compound binds in a more "classical" model that uses both imidazoline groups for H-bonding while the carbazole NH points out of the minor groove. The carbazoles thus form a new type of DNA minor groove complex and their excellent biol. activities indicate that a variety of fused-ring minor-groove binding agents should be investigated.

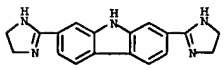
IT 200205-80-7 200205-81-8
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(carbazole dication-DNA minor groove interactions)

RN 200205-80-7 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

L4 ANSWER 24 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 200205-81-8 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



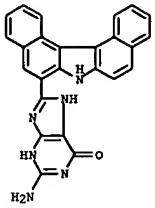
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 25 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:140712 CAPLUS
DOCUMENT NUMBER: 126:128101
TITLE: Synthesis of Depurinating DNA Adducts Formed by One-Electron Oxidation of 7H-Dibenzo[c,g]Carbazole and Identification of These Adducts after Activation with Rat Liver Microsomes
AUTHOR(S): Chen, Liang; Devanesan, Prabu D.; Byun, Jaeman; Gooden, Jonathan K.; Gross, Michael L.; Rogan, Eleanor G.; Cavalieri, Ercole L.
CORPORATE SOURCE: Eppley Institute for Research in Cancer, University of Nebraska Medical Center, Omaha, NE, 68198-6805, USA
SOURCE: Chemical Research in Toxicology (1997), 10(2), 225-233
CODEN: CRTOEC; ISSN: 0893-228X
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB It is hypothesized that 7H-dibenzo[c,g]carbazole (DBC) is metabolically activated by one-electron oxidation in accordance with its propensity to be easily oxidized to its radical cation. Iodine oxidation of DBC produces a radical cation that subsequently binds to nucleophilic groups of dG or Ade. Oxidation of DBC in the presence of dG produces three adducts: DBC-5-N7Gua, DBC-6-N7Gua, and DBC-6-C8Gua, whereas in the presence of Ade, four adducts are obtained: DBC-5-N7Ade, DBC-5-N3Ade, DBC-5-N1Ade, and DBC-6-N3Ade. Formation of these adducts demonstrates that the DBC radical cation reacts at C-5 or C-6 with the reactive nucleophiles N-7 and C-8 of dG and N-7, N-3, and N-1 of Ade. Formation of DNA adducts by DBC was studied by using horseradish peroxidase or 3-methylcholanthrene-induced rat liver microsomes for activation. Identification of the biol.-formed depurinating adducts was achieved by comparison of their retention times on HPLC in two different solvent systems and by matrix-assisted laser desorption ionization (MALDI) mass spectrometry. Quantitation of the adducts formed by rat liver microsomes shows that 96% are depurinating adducts, DBC-5-N7Gua (11%), DBC-6-N7Gua (32%), and DBC-5-N7Ade (53%), and 4% are unidentified stable adducts. Activation of DBC by horseradish peroxidase affords 32% stable unidentified adducts and 68% depurinating adducts: 19% DBC-5-N7Gua, 13% DBC-6-N7Gua, 27% DBC-5-N7Ade, and 9% DBC-5-N3Ade. Thus, activation of DBC by cytochrome P 450 predominantly forms depurinating adducts by one-electron oxidation

IT **186336-49-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of depurinating DNA adducts formed by one-electron oxidation of dibenzocarbazole)
RN 186336-49-2 CAPLUS
CN 6H-Purin-6-one, 2-amino-8-(7H-dibenzo[c,g]carbazol-6-yl)-1,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 25 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L4 ANSWER 26 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:134847 CAPLUS
DOCUMENT NUMBER: 126:139862
TITLE: Methods of inhibiting Pneumocystis carinii pneumonia and compounds useful therefor
INVENTOR(S): Tidwell, Richard R.; Hall, James E.; Boykin, David W.
PATENT ASSIGNEE(S): University of North Carolina At Chapel Hill, USA; Georgia State University Research Foundation, Inc.; Tidwell, Richard R.; Hall, James E.; Boykin, David W.
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

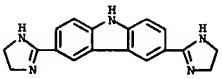
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9640114	A1	19961219	WO 1996-US8464		19960603
W: AL, AM, AT, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL					
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
US 5668166	A	19970916	US 1995-474440		19950607
AU 9661486	A1	19961230	AU 1996-61486		19960603
EP 831813	A1	19980401	EP 1996-919040		19960603
EP 831813	B1	20050119			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
JP 11506763	T2	19990615	JP 1996-501062		19960603
AT 287263	E	20050215	AT 1996-919040		19960603
PRIORITY APPLN. INFO.:			US 1995-474440	A	19950607
			WO 1996-US8464	W	19960603

OTHER SOURCE(S): MARPAT 126:139862

AB The present invention provides methods for treating Pneumocystis carinii pneumonia by administering carbazole derivs. or a pharmaceutically acceptable salt thereof. For example, 3,6-bis(2-imidazolinyl)carbazole dihydrochloride (I) prepared from 3,6-dicyanocarbazole and ethylenediamine dihydrochloride, was given to rat model of P. carinii pneumonia. A lung homogenate of the rats was prepared and cysts were counted in vitro to show ant-P. carinii activity; I was significantly more potent than the control drug, pentamidine.

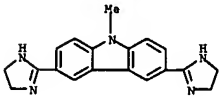
IT **186192-89-2P 186192-90-5P 186192-91-6P 186192-94-9P 186192-96-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of carbazole derivs. for inhibiting Pneumocystis carinii pneumonia)
RN 186192-89-2 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 26 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



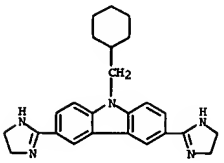
●2 HCl

RN 186192-90-5 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

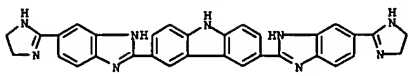
RN 186192-91-6 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

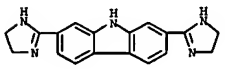
RN 186192-94-9 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]-, tetrahydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 26 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



●4 HCl

RN 186192-96-1 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

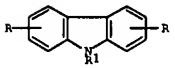
L4 ANSWER 27 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:116541 CAPLUS
DOCUMENT NUMBER: 126:117865
TITLE: Preparation of amidinocarbazoles as microbicides
INVENTOR(S): Tidwell, Richard R.; Hall, James E.; Boykin, David W.; Dykstra, Christine C.; Perfect, John R.; Blagburn, Byron L.
PATENT ASSIGNEE(S): University of North Carolina At Chapel Hill, USA; Georgia State University Research Foundation, Inc.; Duke University; Auburn University; Tidwell, Richard R.; Hall, James E.; Boykin, David W.; Dykstra, Christine C.; Perfect, John R.; Blagburn, Byron L.
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640117	A1	19961219	WO 1996-US8972	19960603
W: AL, AM, AT, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5668167	A	19970916	US 1995-477876	19950607
AU 9660460	A1	19961230	AU 1996-60460	19960603
EP 831811	A1	19980401	EP 1996-918120	19960603
EP 831811	B1	20031119		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11506776	T2	19990615	JP 1996-501405	19960603
AT 254462	E	20031215	AT 1996-918120	19960603
ES 2211958	T3	20040716	ES 1996-918120	19960603

PRIORITY APPLN. INFO.:
US 1995-477876 A 19950607
US 1995-474440 A1 19950607
WO 1996-US8972 W 19960603

OTHER SOURCE(S): MARPAT 126:117865
GI



I

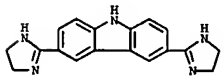
AB Title compds. [I; R = halo, alkyl, alkoxy, aryl, C(:NR2)NR2R3; R1 = halo, alkyl, aryl, etc.; R2 = H, alkyl, aryl, etc.; R3 = H, OH, alkyl, aryl,

L4 ANSWER 27 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

etc.) were prepd. Thus, 3,6-dibromocarbazole was converted to 3,6-diamidinocarbazole dihydrochloride in 2 steps. Data for biol. activity of I were given.

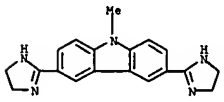
IT **186192-89-2P 186192-90-5P 186192-91-6P**
186192-94-9P 186192-96-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of amidinocarbazoles as microbicides)

RN 186192-89-2 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

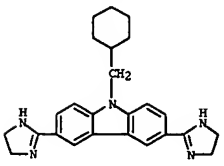
RN 186192-90-5 CAPLUS
CN 9H-Carbazole, 3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-9-methyl-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

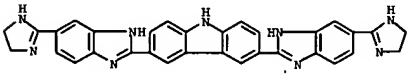
RN 186192-91-6 CAPLUS
CN 9H-Carbazole, 9-(cyclohexylmethyl)-3,6-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 27 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



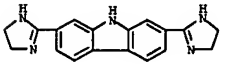
●2 HCl

RN 186192-94-9 CAPLUS
CN 9H-Carbazole, 3,6-bis[5-(4,5-dihydro-1H-imidazol-2-yl)-1H-benzimidazol-2-yl]-, tetrahydrochloride (9CI) (CA INDEX NAME)



●4 HCl

RN 186192-96-1 CAPLUS
CN 9H-Carbazole, 2,7-bis(4,5-dihydro-1H-imidazol-2-yl)-, dihydrochloride (9CI) (CA INDEX NAME)



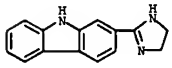
●2 HCl

L4 ANSWER 28 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:202910 CAPLUS
DOCUMENT NUMBER: 124:249664
TITLE: Selective Inhibitors of Monoamine Oxidase. 3. Structure-Activity Relationship of Tricyclics Bearing Imidazoline, Oxadiazole, or Tetrazole Groups
AUTHOR(S): Harfenist, Morton; Heuser, Darryl J.; Joyner, Charles T.; Batchelor, John F.; White, Helen L.
CORPORATE SOURCE: Divisions of Organic Chemistry and Pharmacology, Wellcome Research Laboratories, Research Triangle Park, NC, 27709, USA
SOURCE: Journal of Medicinal Chemistry (1996), 39(9), 1857-63
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

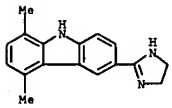
AB Inhibition of monoamine oxidase A (MAO A) is believed to cause antidepressant and possibly antianxiety effects. The previous paper had developed structure-activity relations (SAR) for in vitro MAO A inhibition by tricyclic N-arylamides.1. It is shown in this paper that the same in vitro SAR can be carried over to tricyclics whose potentially toxic amide function is replaced by an appropriately substituted imidazoline, a 1,2,4- or 1,3,4-oxadiazole, or an alkylated tetrazole moiety. Dialysis of the inhibitor from the enzyme was used as a measure of reversibility which correlates with a low ability to cause a blood pressure rise with ingested tyramine ("cheese effect").

IT **175293-09-1P 175293-10-4P 175293-11-5P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(structure-monoamine oxidase-inhibiting activity relations of tricyclics with imidazolines or azoles)

RN 175293-09-1 CAPLUS
CN 9H-Carbazole, 2-(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)

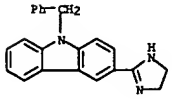


RN 175293-10-4 CAPLUS
CN 9H-Carbazole, 6-(4,5-dihydro-1H-imidazol-2-yl)-1,4-dimethyl- (9CI) (CA INDEX NAME)

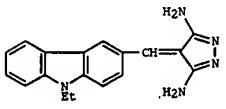


L4 ANSWER 28 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 175293-11-5 CAPLUS
CN 9H-Carbazole, 3-(4,5-dihydro-1H-imidazol-2-yl)-9-(phenylmethyl)- (9CI) (CA INDEX NAME)



L4 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:954422 CAPLUS
DOCUMENT NUMBER: 124:146013
TITLE: Facile synthesis of novel carbazoles through heterocyclization reactions and their antimicrobial activity
AUTHOR(S): Berghot, Moged Ahmed; Badawy, Doria Saleh; Moawad, Evelin Boshra
CORPORATE SOURCE: Chemistry Department, Mansoura University, Mansoura, Egypt
SOURCE: Revue Roumaine de Chimie (1995), 40(4), 377-86
CODEN: RRCHAX; ISSN: 0035-3930
PUBLISHER: Editura Academiei Romane
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

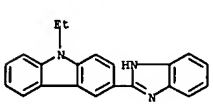


I

AB 9-Ethylcarbazole binary attached to the position 3 with heterocyclic systems such as pyrazole, pyrazolinone, pyrazoline, thiazolidinone, azetidinone, triazoline, benzimidazole, benzoxazole, benzothiazole, oxazolidinone, thiouracil and furan were synthesized. The structures of the synthesize compds. have been confirmed by anal. and spectral methods. Pyrazole I showed antimicrobial activity against Bacillus subtilis and Escherichia coli.

IT **173463-46-2P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis of carbazoles through heterocyclization reactions and their antimicrobial activity)

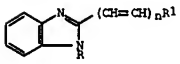
RN 173463-46-2 CAPLUS
CN 9H-Carbazole, 3-(1H-benzimidazol-2-yl)-9-ethyl- (9CI) (CA INDEX NAME)



L4 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1985:140734 CAPLUS
DOCUMENT NUMBER: 102:140734
TITLE: Photosensitive drum for electrophotography
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59075257	A2	19840427	JP 1982-186377	19821023
PRIORITY APPLN. INFO.:			JP 1982-186377	19821023

GI

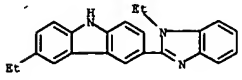


I

AB An electrophotog. material has a supported photoconductive layer containing ≥1 compound selected from benzimidazole derivs. having the general formula I (R = lower alkyl, Bz, Ph; n = 0, 1; R1 = Ph, aromatic group, heterocyclic group that may be substituted by lower alkyl, halo, lower alkoxy, lower alkylamino, benzylamino, phenylamino that may be substituted). The claimed benzimidazole derivs. are good charge-transporting agents. Thus, a 1-μ charge-generating layer was formed on an Al layer deposited on a polyester support by coating a THF solution containing Diane Blue (CI Pigment Blue, CI 21180) 76 and a polyester (Vylon 200; Toyobo) 25.2 weight parts. Similarly, a charge-transport layer was formed by coating a polycarbonate resin (Panlite K1130; Teijin Chems.) 2 and 1-methyl-2-phenylbenzimidazole II 2 weight parts dissolved in THF. The obtained electrophotog. material was corona-charged to -1482 V, and its sensitivity (for half decay of voltage) was 18.2 lx-s.

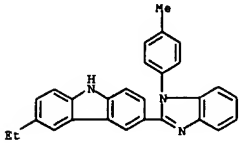
IT **95640-68-9 95640-69-0**
RL: USES (Uses)
(charge-transport layer containing, for electrophotog. materials)

RN 95640-68-9 CAPLUS
CN 9H-Carbazole, 3-ethyl-6-(1-ethyl-1H-benzimidazol-2-yl)- (9CI) (CA INDEX NAME)

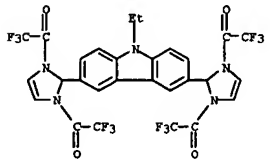


RN 95640-69-0 CAPLUS

L4 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
CN 9H-Carbazole, 3-ethyl-6-[1-(4-methylphenyl)-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)



L4 ANSWER 31 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1981:156678 CAPLUS
DOCUMENT NUMBER: 94:156678
TITLE: Synthesis of aromatic aldehydes via 2-aryl-N,N'-diacyl-4-imidazolines
AUTHOR(S): Bergman, Jan; Renstroem, Lars; Sjoerberg, Birger
CORPORATE SOURCE: Dep. Org. Chem., R. Inst. Technol., Stockholm, S-100 44/70, Swed.
SOURCE: Tetrahedron (1980), 36(17), 2505-11
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 94:156678
AB Diacylimidazolium ions, formed by treating imidazole and benzimidazole with Ac2O or trihaloacetic anhydrides, reacted with indole, thiophene, PhOMe and/or m-xylene to give N,N'-diacyl-2-aryl-4-imidazolines, which were converted to aromatic aldehydes on alkaline hydrolysis. E.g., reaction of imidazole with Ac2O and indole (125°, 30 min) gave 72% 1,3-diacetyl-2-(3-indolyl)-4-imidazoline, which was hydrolyzed (NaOH, EtOH/H2O), reflux, 1 h) to 3-formylindole (88%).
IT 77145-01-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 77145-01-8 CAPLUS
CN 1H-Imidazole, 2,2'-(9-ethyl-9H-carbazole-3,6-diyl)bis[2,3-dihydro-1,3-bis(trifluoroacetyl)- (9CI) (CA INDEX NAME)

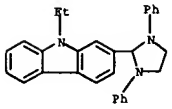


L4 ANSWER 32 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1980:102294 CAPLUS
DOCUMENT NUMBER: 92:102294
TITLE: Electrophotographic photosensitive materials
INVENTOR(S): Sasaki, Masaomi; Ohta, Masafumi; Tsutsui, Kyoji; Hashimoto, Mitsuru; Sakai, Kiyoshi; Kazami, Takeo
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

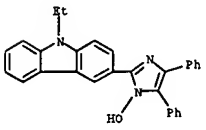
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54061936	A2	19790518	JP 1977-128448	19771026
PRIORITY APPLN. INFO.:			JP 1977-128448 A	19771026

GI For diagram(s), see printed CA Issue.
AB Charge-carrier-transferring agents for electrophotog. photosensitive materials are selected from the following groups of compds. (1) Compds. of the general formulas I and II (R = H, alkyl, acetyl, cycloalkyl; R1 = alkyl, R2 = alkyl, acetyl; R3 = H, alkyl). (2) Compds. of the general formula IV (R4, R5 = Ph or Ph group substituted with ≥1 of halo, amino, C1-4 alkyl, OH, C1-4 alkoxy substituents; R6, R7 = H, C1-4 alkyl, Ph, substituted phenyl; Z = O, S). (3) Compds. of the general formula IV (R8 = H, alkyl, alkenyl, aralkyl, aralkenyl, aryl, substituted aryl, heterocyclic moiety; R9, R10 = Ph, substituted Ph). (4) Compds. of general formulas V, VI, VII, and VII (R11 = aminophenyl, alkylaminophenyl; R12 = Ph, substituted Ph; R13 = H, alkyl, alkenyl, heterocyclic moiety; R14, R15 = Ph, substituted Ph; 1 of R14 and R15 is alkylaminophenyl or aminophenyl; R16 = H, alkyl). (5) Compds. of the general formula IX [Z1 = group of atoms required to form aromatic ring; Z2 = O, S, NR17 (R17 = H, alkyl, aryl, aralkyl); R18 = aromatic or heterocyclic moiety]. (6) Compds. of the general formula R19CONHN:CR20R21 (R19 = H, alkyl, aralkyl, aryl, substituted aryl, aromatic heterocyclic moiety; R20 = aralkyl, aryl, substituted aryl, aromatic heterocyclic moiety; R21 = H, alkyl, aryl, substituted aryl; R20R21 in combination may complete a C ring together with the C atom). (7) Compds. of the general formula R22CH:CR23R24 (R22 = aromatic C ring, aromatic heterocyclic moiety, styryl; R23 = H, acyl, amino; R24 = aromatic C ring moiety, aromatic heterocyclic moiety, carboalkoxy, carboamido, CN). (8) Compds. of the formula X (R25, R26 = aromatic or heterocyclic moiety, R27 = H, aliphatic moiety; R28 = H, aromatic moiety, heterocyclic moiety). (9) Compds. of the formula XI [R29, R30 = H, C1-6 alkyl, branched alkyl (≤6 C atoms in the longest chain)]. (10) The compound XII. And (11) compds. of the general formula XIII (R31 = Me, Et, Pr, MeO; R32 = Cl, MeO; m = 0, 1; n = 0, 1, 2) or XIV (R33 = Me, Et, MeO; R34 = Cl, MeO; m = 0, 1; n = 0, 1, 2). Thus, an electrophotog. plate prepared by using Diane Blue (as the charge-carrier-generating pigment) and 2,5-bis[4-(ethylamino)phenyl]-1,3,4-triazole (as the charge-carrier-transfer agent) had a E1/2 sensitivity of 4.1 lx.s.
IT 71727-52-1
RL: USES (Uses)
(electrophotog. charge carrier transfer agent)
RN 71727-52-1 CAPLUS
CN 9H-Carbazole, 2-(1,3-diphenyl-2-imidazolidinyl)-9-ethyl- (9CI) (CA INDEX NAME)

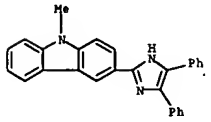
L4 ANSWER 32 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



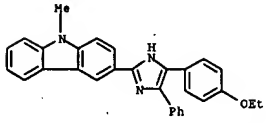
L4 ANSWER 33 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1972:457559 CAPLUS
DOCUMENT NUMBER: 77:57559
TITLE: Imidazoles. III. Pesticidal screening of some substituted 1-hydroxyimidazoles
AUTHOR(S): Allan, G. G.; Chopra, C. S.; Mattila, T.
CORPORATE SOURCE: Coll. Forest Resour., Univ. Washington, Seattle, WA, USA
SOURCE: Pesticide Science (1972), 3(2), 153-9
CODEN: PSSCBG; ISSN: 0031-613X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The screening of 30 substituted 1-hydroxyimidazoles I (R = Me, Et or Ph; R1 = 2-, 3-, or 4-HOC6H4, 3- or 4-BrC6H4, 3- or 4-O2NC6H4, 2-furyl, 2-thienyl, 5-chloro-2-thienyl, 2-pyrryl, 3-pyridyl, or 3,4-methylenedioxy-2-phenyl) as herbicides, anthelmintics, insecticides, bacteriostats, fungicides, coccidiostats, and nematocides disclosed a broad spectrum of biological activity in all but 2 compds. The most pesticidally active imidazoles carried an interdiazal benzenoid or heterocyclic aromatic ring substituent with a phenolic or potentially phenolic group attached thereto. The most susceptible insect was Musca domestica, for which 15 compds., such as 1-hydroxy-2-(3-hydroxyphenyl)-4,5-dimethylimidazole [35375-32-7], or 1-hydroxy-2-(3,4-methylenedioxyphenyl)-4,5-dimethylimidazole [35375-33-8] functioned as contact toxicants with 50% mortalities at distribution levels of 1.5 μg/cm2.
IT 39020-42-3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(pesticidal activity of)
RN 39020-42-3 CAPLUS
CN 9H-Carbazole, 9-ethyl-3-(1-hydroxy-4,5-diphenyl-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



L4 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1972:434423 CAPLUS
DOCUMENT NUMBER: 77:34423
TITLE: Synthesis of 4,5-diaryl-2-(N-methylcarbazol-3-yl)- and 4,5-diaryl-2-(N-methyl-1,2,3,4-tetrahydrocarbazol-7-yl)imidazolyl radicals
AUTHOR(S): Tanaseichuk, B. S.; Zhivechkova, L. A.
CORPORATE SOURCE: Mord. Gos. Univ., Saransk, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1971), 7(11), 1550-1
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB PhCOCOC6H4R-p were treated with carbazolecarboxaldehydes to give the imidazoles (I, R = H, Br, MeO, EtO, Me, and II R = H, MeO, EtO) (50-70%). Radicals were obtained by oxidation of I and II with PbO2 in CHCl3.
IT 37068-03-4P 37068-04-5P 37126-85-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 37068-03-4 CAPLUS
CN 9H-Carbazole, 3-(4,5-diphenyl-1H-imidazol-2-yl)-9-methyl- (9CI) (CA INDEX NAME)

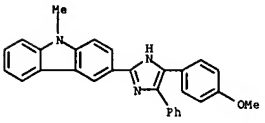


RN 37068-04-5 CAPLUS
CN 9H-Carbazole, 3-[4-(4-ethoxyphenyl)-5-phenyl-1H-imidazol-2-yl]-9-methyl- (9CI) (CA INDEX NAME)



RN 37126-85-5 CAPLUS
CN 9H-Carbazole, 3-[4-(4-methoxyphenyl)-5-phenyl-1H-imidazol-2-yl]-9-methyl- (9CI) (CA INDEX NAME)

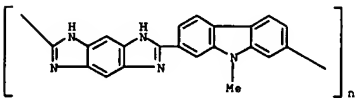
L4 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L4 ANSWER 35 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1971:126501 CAPLUS
DOCUMENT NUMBER: 74:126501
TITLE: Thermostable polybenzimidazoles
INVENTOR(S): Naarmann, Herbert; Eisert, Manfred; Schaffner, Ernst; Willersinn, Herbert
PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik AG
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

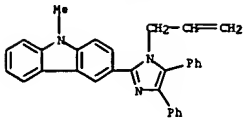
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1943499	A	19710304	DE 1969-1943499	19690827
FR 2059035	A5	19710528	FR 1970-30576	19700820
NL 7012558	A	19710302	NL 1970-12558	19700825
GB 1310738	A	19730321	GB 1970-41003	19700826

PRIORITY APPLN. INFO.: DE 1969-1943499 A 19690827
AB High-mol.-weight tear-resistant title polymers useful as coatings or insulating materials were prepared by 1:1 condensation of aromatic tetramino compds., e.g. 1,2,4,5-(H2N)4C6H2.4HCl (I) or 2,3,6,7-tetramino-9,10-anthraquinone.4HCl, with aromatic dinitrile, dialdehyde, or bis(dihalomethyl) compds., e.g. (p-NCC6H4)2O, p-(NC)2C6H4 (II), p-(OHC)2C6H4, (p-OHCC6H4)2NMe, or 1,4-bis(dichloromethyl)-2,5-dichlorobenzene. Thus, 28.2 parts I was added to 12.8 parts II in 100 parts polyphosphoric acid at 50°. Stirring 5 hr at 75°, precipitation with H2O, and 3 hr drying at 150° gave a polybenzimidazole of 0.8 dl/g intrinsic viscosity at 25° in cresol.
IT 32075-75-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 32075-75-5 CAPLUS
CN Poly[(9-methyl-9H-carbazole-2,7-diyl)(1,5-dihydrobenzo[1,2-d:4,5-d']diimidazole-2,6-diyl)] (9CI) (CA INDEX NAME)



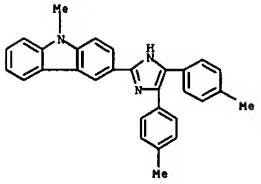
L4 ANSWER 36 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1965:480618 CAPLUS
DOCUMENT NUMBER: 63:80618
ORIGINAL REFERENCE NO.: 63:14846f-h,14847a
TITLE: Monomers and polymers. V. Polymerizable fluorescent heterocycles
AUTHOR(S): Drefahl, Guenther; Winnefeld, Klaus
CORPORATE SOURCE: Friedrich Schiller Univ., Jena, Germany
SOURCE: Journal fuer Praktische Chemie (Leipzig) (1965), 28(5-6), 236-41
CODEN: JPCEAO; ISSN: 0021-8383
DOCUMENT TYPE: Journal
LANGUAGE: German
GI For diagram(s), see printed CA Issue.
AB cf. CA 63, 14729c. A series of polymerizable imidazoles (I and II) and 2,3-bis(p-vinylphenyl)quinoxaline (III) were prepared for use in scintillation counters. The appropriate 1,2-diketones (0.01 mol), 0.01 mol suitable aldehyde, 2.0 g. dry NH4OAc, and 2 g. CH2:CHCH2NH2 in 100 cc. dry AcOH refluxed 3 h. and basified with cooling with NH4OH yielded the corresponding I. In this manner were prepared the following compds. (% yield and m.p. given): 4,5-diphenyl-1-allyl-2-(4-stilbenyl)imidazole (IV), 48, 211-12°; 2-(p-PhC6H4) analog of IV, 89, 172-4°; 2-(3-carbazolyl) analog of IV, 52, 212-13°; 2-(4-tolanyl) analog of IV, 28, 202-3°; 4,4'-bis(1-allyl-4,5-diphenyl-2-imidazolyl)tolan, 34, 190-2°; 4,5-bis(4-biphenylyl)-1-allyl-2-(4-biphenylyl)imidazole, 50, 178°; 1,4-bis[2-(4-vinylphenyl)-4,5-diphenyl-1-imidazolyl]benzene, 28, 409-10° (decomposition). The appropriate benzoin (0.01 mol) and 0.01 mol p-CH2:CHC6H4CHO in 200 cc. MeOH heated 45 min. on the water bath with 4 g. Cu(OAc)2 in 40 cc. concentrated NH4OH and the resulting Cu salt resuspended in 100 cc. refluxing 50% EtOH and decomposed with H2S yielded the corresponding II (R, m.p., and % yield given): p-MeC6H4, 250-2° (MeNO2 and chromatographed on Al2O3), 39; p-PhC6H4, 239-41° (MeNO2 or C6H6), 30; 2-furyl, 194-6° (aqueous EtOH and chromatographed on Al2O3), 35. o-C6H4(NH2)2 (5 g.) and 5 g. tolil in 100 cc. EtOH refluxed 3.5 h. gave 7.7 g. 2,3-di(p-tolyl)quinoxaline (V), m. 144-5° (EtOH). V (7.7 g.), 8.7 g. N-bromosuccinimide, and 0.2 g. Bz2O2 in 100 cc. CCl4 heated 3 h. gave 9.2 g. crude dibromo derivative; a 4.5-g. fraction and 9 g. Ph3P in 80 cc. absolute HCONMe2 refluxed 6 h. and diluted with Et2O gave 7 g. diphosphonium bromide, m. >310°; a 2.7-g. portion treated with 0.2N LiOEt and then with CH2O in 90 cc. absolute EtOH gave 700 mg. III, m. 149-52°. The uv maximum and extinction coeffs, of the various imidazole derivs, and III are given.
IT 3719-79-7, Carbazole, 3-(1-allyl-4,5-diphenylimidazol-2-yl)-9-methyl-
(preparation of)
RN 3719-79-7 CAPLUS
CN Carbazole, 3-(1-allyl-4,5-diphenylimidazol-2-yl)-9-methyl- (7CI, 8CI) (CA INDEX NAME)

L4 ANSWER 36 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L4 ANSWER 37 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1964:404208 CAPLUS
DOCUMENT NUMBER: 61:4208
ORIGINAL REFERENCE NO.: 61:651c-h
TITLE: Syntheses of conjugated imidazoles
AUTHOR(S): Drefahl, Guenther; Schermer, Werner
CORPORATE SOURCE: Friedrich-Schiller Univ., Jena, Germany
SOURCE: Journal fuer Praktische Chemie (Leipzig) (1964), 23(5-6), 225-33
CODEN: JPCEAO; ISSN: 0021-8383
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
GI For diagram(s), see printed CA Issue.
AB Several I, II, and III were prepared for use as scintillators and optical brighteners. Tolil (IV) (4 g.), 2.8 g. p-PhC6H4CHO (V), and 10 g. NH4OAc (VI) in 150 cc. AcOH refluxed 2 hrs. gave 82% I (Ar = p-PhC6H4), needles, m. 256° (C6H6). IV (4 g.), 3.5 g. N-methylcarbazole-3-carboxaldehyde, and 10 g. VI gave similarly 75% I (Ar = N-methyl-3-carbazolyl), m. 353-4° (decomposition) (C5H5N). p-C6H4(CHO)2 (VII) (1 g.), 3.14 g. Bz2, and 8 g. VI in 200 cc. AcOH refluxed 2 hrs. yieldad 80% II (R = Ph, R' = H) (VIII), yellow needles, m. 410-12° (decomposition) (C5H5N). Similarly were prepared the following II (R, R' crystal form, m.p. (decomposition), and % yield given): Ph, Ph (IX), pale yellow needles, 388-90° (PhNO2), 60; p-MeC6H4, Ph, yellow-orange needles, 314-15° (MeNO2), 62; p-MeOC6H4, Ph, yellow needles, 312-14° (MeNO2), 65; p-PhC6H4, H (X), yellow needles, 350-2° (xylene and C5H5N); p-PhCH:CHC6H4, H (XI), yellow needles, 319-20° (HCONMe2). VII (1 g.), 2.9 g. p-H2NC6H4CH:CHPh, and 50 cc. AcOH refluxed 0.5 hr. gave p-C6H4(CH:NC6H4CH:CHPh-p)2, yellow leaflets, m. 338° with sintering at 316° (PhNO2). 1,4,5-Triphenyl-2-methylimidazole (XII) (10 g.), 6 g. N-bromosuccinimide, and 0.1 g. Bz2O2 in 100 cc. dry CCl4 refluxed 0.5 hr., treated with 8 g. Ph3P, heated on the water bath, and kept overnight yielded 30% triphenyl(1,4,5-triphenyl-2-methylimidazolyl)-phosphonium bromide-EtOH (XIII), leaflets, m. 155° and 249-50° (repptd. from EtOH with Et2O). XIII (2 g.) and 1 g. BzH in 70 cc. absolute EtOH treated under argon with 6.5 cc. 0.4M NaOEt-EtOH and refrigerated overnight gave 53% 1,4,5-triphenyl-2-styrylimidazole (XIV), needles, m. 211-12°. XII (7.5 g.), 5 cc. BzH, and 10 cc. Ac2O heated 10 hrs. at 210-15° in a sealed tube gave 65% XIV, yellowish needles, m. 210-11° (EtOH). XIII (2 g.) and 1 g. V in 100 cc. absolute EtOH with 6.5 cc. 0.4M NaOEt-EtOH gave 55% III (Ar = p-PhC6H4)(XV), yellow needles, m. 255-6° (EtOH or AcOEt). XII (7.5 g.), 4.5 g. V, and 15 cc. Ac2O heated 10 hrs. at 210-15° in a sealed tube gave 48% XV, m. 255° (AcOEt). XIII (3 g.) and 0.7 g. p-O2NC6H4CHO in 100 cc. absolute EtOH treated overnight with 10 cc. 0.5M NaOEt-EtOH yielded 65% III (Ar = p-O2NC6H4)(XVI), red-orange needles, m. 242-4° (BuOH). XIII (3 g.) and 0.95 g. p-PhCH:CHC6H4CHO with 100 cc. absolute EtOH and 10 cc. 0.5M NaOEt-EtOH yielded 41% III (Ar = p-PhCH:CHC6H4) (XVII), yellow crystals, m. 265-6° (BuOH). XIII (2 g.) and 1.5 g. 1-C10H7CHO in 70 cc. absolute EtOH with 6.5 cc. 0.5M NaOEt-EtOH gave 55% III (Ar = 1-C10H7)(XVIII), yellow needles, m. 236-7° (EtOH). The ultraviolet spectra of VIII, IX, X, XI, XIV, XV, XVI, XVII, and XVIII are recorded, and the spectral properties of these compds. are discussed.
IT 96367-35-0, Carbazole, 3-(4,5-di-p-tolylimidazol-2-yl)-9-methyl-
(preparation of)
RN 96367-35-0 CAPLUS
CN Carbazole, 3-(4,5-di-p-tolylimidazol-2-yl)-9-methyl- (7CI) (CA INDEX NAME)

L4 ANSWER 37 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L4 ANSWER 38 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1962:54010 CAPLUS
DOCUMENT NUMBER: 56:54010
ORIGINAL REFERENCE NO.: 56:10334d-i,10335a-c
TITLE: Material for electrographic reproduction
INVENTOR(S): Sues, Oskar; Schlesinger, Heinz
PATENT ASSIGNEE(S): Kalle A.-G.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1116057		19611026	DE	19580809
US 3127266		1964	US	

AB The use of 1,3-diphenyltetrahydroimidazole derivs. as photoconducting materials in insulation layers for electrographic reproduction is described. PhNHCH2CH2NHPh (I) (4.7 g.) in 65 cc. MeOH containing 2 cc. 34% aqueous H2CO and a few drops 50% AcOH refluxed 5 min., cooled, and filtered gave 1,3-di phenyltetrahydroimidazole (II), m. 123-4° (MeOH). Similarly were prepared the following 2-substituted derivs. of II (2-substituent and m.p. given): Me, 100-1° (MeOH); Et, 109-10° (MeOH); Pr, 82° (MeOH); iso-Pr, 95-6° (MeOH); MeCH:CH, 132° (MeOH); PhCH2, 86-7° (MeOH); PhCH2CH2, 143-4° (MeOH); PhCH:CH, 119-20° (MeOH-C6H6); Ph, 135° (MeOH); p-MeC6H4, 128-30° (MeOH); p-MeOC6H4, 163-4° (C6H6-MeOH); 3,4-(MeO)2C6H3, 88-9° (Et2O); 4,3-HO(MeO)C6H3, 171° (MeOH); 3,4-HO(MeO)C6H3, 169-70° (C6H6MeOH); 2,3-HO(MeO)C6H3, 185-6° (C6H6-MeOH); o-HOC6H4, 117° (MeOH); m-HOC6H4, 104-5° (MeOH); p-HOC6H4, 145-6° (MeOH) (pale yellow); 2,5-HO(Me)C6H3, 142° (MeOH); 3,4-(CH2O2)C6H3, 159-60° (EtOH); o-ClC6H4, 125-6° (MeOH); m-ClC6H4, 92-3° (MeOH); p-ClC6H4, 155-6° (MeOH); 2,6-Cl2C6H3, 203-4° (C6H6-MeOH); o-O2NC6H4, 140° (C6H6-MeOH) (yellow); m-O2NC6H4, 114° (C6H6-MeOH) (yellow); p-O2NC6H4, 142° (EtOAc-ligroine) (yellow); 3,6,2-Cl2(O2N)C6H2, 162-3° (EtOH) (yellow); 5,2-Cl(O2N)C6H3, 196-7° (C6H6-MeOH) (yellow); p-Me2NC6H4 (III), 146-7° (MeOH); 2,4-Cl(Me2N)C6H3, 177-8° (EtOAc); p-EtNHC6H4, 179° (MeOH-C6H6); p-Et2NC6H4, 160-1° (EtOAc); p-(ClCH2CH2)2NC6H4, 162° (MeOH-C6H6); p-ClCH2CH2NPhC6H4, 162-3° (C6H6-MeOH); p-PhCH2NMeC6H4, 122-4° (MeOH-C6H6); p-(PhCH2)2NC6H4, 156-7° (EtOAc); p-PhC6H4, 144-5° (C6H6-MeOH); 1-C10H7, 190-1° (C6H6MeOH); 2,1-EtOC10H6, 189-90° (C6H6-MeOH); 2-anthraquinonyl, 235° (C6H6-MeOH) (orange); 3-pyrenyl, 204-5° (EtOAc); 2-furyl, 133-4° (MeOH); 2-pyridyl, 175-6° (MeOH); 3-pyridyl, 144-5° (EtOH); 4-pyridyl, 150-2° (EtOH); 2-quinolyl, 158-60° (MeOH); 4-quinolyl, 192-3° (C6H6); and 9-ethyl-3-carbazolyl, 180° (C6H6-MeOH). Similarly were prepared the N,N'-di-p-tolyl analogs of II (same data given): Ph, 167°; 3,4-(MeO)2C6H3, 105°; p-Me2NC6H4, 189°; 2,4-Cl(Me2N)C6H3, 158-60°; p-EtNHC6H4, 171-2°; p-Et2NC6H4, 146°; p-(ClCH2CH2)2NC6H4, 152°; p-ClCH2CH2N(Ph)C6H4, 165° (EtOAc); p-[p-EtOC6H4N(Me)]C6H4, 107-8°; p-PhCH2N(Me)C6H4, 164°; p-(PhCH2)2NC6H4, 192°; 2-C10H7, 176°; 2-pyridyl, 215°; 3-pyridyl, 169°; 4-pyridyl, 173°; 2-quinolyl, 186°; and

L4 ANSWER 38 OF 38 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
4-quinolyl, 157°; all recrystd. from MeOH-C6H6 except where noted otherwise. Similarly were prepd. the following N,N'-bis(p-chlorophenyl) analogs of II (same data given): Ph, 139°; 3,4-(MeO)2C6H3, 119°; 3,4-Me(MeNH)C6H3, 185-6° (EtOH-C6H6); p-Me2NC6H4, 185°; 2,4-Cl(Me2N)C6H3, 211°; p-EtZNC6H4, 174°; p-(ClCH2CH2)2NC6H4, 181°; p-PhCH2N(Me)C6H4, 150°; p-(PhCH2)2NC6H4, 187°; p-[p-EtOC6H4N(Me)]C6H4, 142-3°; p-ClCH2CH2N(Ph)C6H4, 202-3° (EtOAc); 2-C10H7, 183-4°; 9-anthracenyl, 228-30° (CHCl3) (light yellow); 2-pyridyl, 179°; 3-pyridyl, 122°; 4-pyridyl, 204°; 2-quinolyl, 199°; 4-quinolyl, 175°; all recrystd. from MeOH-C6H6 except where noted otherwise. Similarly was obtained from 0.6 g. (p-O2NC6H4NHCH2)2 and 0.5 g. BzH the yellow 1,3-bis(p-nitrophenyl)-2-phenyltetrahydroimidazole, m. 269°. Similarly were prepd. N-methyl - [p,p'- bis(1,3-diphenyltetrahydro - 2 - imidazolyl)diphenylamine (IV), m. 213° (C6H6-MeOH), from 1.4 g. I and 0.8 g. (p-OHCC6H4)2NMe; 1,4-bis(1,3-diphenyltetrahydro-2-imidazolyl)benzene, m. 267-70° (C6H6) from 2.7 g. p-C6H4(CHO)2 and 4.7 g. I; 2,6-bis(1,3-diphenyltetrahydro-2-imidazolyl)pyridine, m. 255-7° (PhMe), from 1.6 g. 2,6-pyridinedicarboxaldehyde and 4.7 g. I; and the 1,3-bis(p-ClC6H4) analog of IV, m. 255-6° (C6H6-MeOH), from 1.9 g. (p-ClC6H4NHCH2)2 and 0.8 g. (p-OHCC6H4)2NMe. All I and analogs are colorless except where stated otherwise. III (1 g.) and 1 g. unsapond. ketone-aldehyde condensation resin (Kunstharz AP) in 30 cc. MeOCH2CH2OH or C6H6 coated on paper and evapd., and the paper foil charged electrostatically, exposed, dusted with a soot-resin mixt., and warmed gave a duplicate of the master.

IT 296769-78-3, Carbazole, 3-(1,3-diphenyl-2-imidazolidinyl)-9-ethyl- (preparation of)

RN 296769-78-3 CAPLUS

CN 9H-Carbazole, 3-(1,3-diphenyl-2-imidazolidinyl)-9-ethyl- (9CI) (CA INDEX NAME)